

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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2114.—VOL. XLVI.

LONDON, SATURDAY, FEBRUARY 26, 1876.

WITH SUPPLEMENT. PRICE SIXPENCE. PER ANNUM, BY POST, £1 4s.

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| Javali. | Richmond. |
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| Monydd Gorrdu. | Sweetland. |
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| 10 U.S. Cable (1/2 share) | 7/8 | 4 1/4 |
| 10 U.S. Cable (1/4 share) | 3/8 | 2 1/4 |
| 10 U.S. Cable (1/8 share) | 1/8 | 1 1/4 |
| 10 U.S. Cable (1/16 share) | 1/16 | 1/8 |
| 10 U.S. Cable (1/32 share) | 1/32 | 1/16 |
| 10 U.S. Cable (1/64 share) | 1/64 | 1/32 |
| 10 U.S. Cable (1/128 share) | 1/128 | 1/64 |
| 10 U.S. Cable (1/256 share) | 1/256 | 1/128 |
| 10 U.S. Cable (1/512 share) | 1/512 | 1/256 |
| 10 U.S. Cable (1/1024 share) | 1/1024 | 1/512 |
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| 10 U.S. Cable (1/16384 share) | 1/16384 | 1/8192 |
| 10 U.S. Cable (1/32768 share) | 1/32768 | 1/16384 |
| 10 U.S. Cable (1/65536 share) | 1/65536 | 1/32768 |
| 10 U.S. Cable (1/131072 share) | 1/131072 | 1/65536 |
| 10 U.S. Cable (1/262144 share) | 1/262144 | 1/131072 |
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| 10 U.S. Cable (1/1048576 share) | 1/1048576 | 1/524288 |
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Royal School of Mines.

PROF. SMYTH'S LECTURES ON MINING—No. XVI.

[BY OUR SPECIAL REPORTER.]

We now come to the consideration of mining proper, and commence with what is most important, and what, generally speaking, requires the largest outlay—the breaking of ground, in other words the perforation of the rock. When we consider the great varieties of the ground, the different forms in which it may be opened, and the variation among the implements employed in different countries, we see that breaking the ground is not so simple a matter as some persons imagine. A man will not make an efficient manager unless he has mastered this primary subject, and nothing but actual experience will enable him to do so. Inasmuch as the men working a great part of the pit are paid by the amount of progress they make under certain conditions, it is evident that unless the manager knows of actual personal experience what the men ought to do, and how far they ought to penetrate in a certain class of rock in a given time, he will be liable to be imposed upon. This is especially the case in metalliferous mines, owing to great variations in the rocks. In some coal mines the conditions are much simpler. Nevertheless, the time necessary for acquiring this experience may be materially shortened by visiting different districts, and observing what is done under certain circumstances; or, what is perhaps not so good, by reading, and inspecting collections of the tools and implements employed. With regard to the nature of the rock, it is well to remember that what we consider the hardness of the ground from a miner's point of view is not purely the hardness of the rock in a mineralogical sense. A rock may be strictly harder than another, judged by a mineralogical scale of hardness, and yet be much more easily worked on account of its brittleness. Among the worst kinds of ground we have to deal with are certain varieties of quartz, hornstone mixed with pyrites, and some rocks in which hornblende is present, and imparts a characteristic toughness. On the other hand, some varieties of vein quartz can be worked with great facility.

We may, for convenience sake, divide the different kinds of ground into five classes, a division more or less recognised in most mining countries.—1. Loose ground, or "running ground," in the German *locker*, or *rollig*. This is soft watery ground, and has derived its name from its tendency to run into the excavations, &c. Examples of it may be found in many cases as superjacent materials over the coal measures, as in the North of France and Belgium, and, again, covering the Mansfeld copper-slate. In the Durham coal districts, after passing through the magnesian limestone, the miners come on a bed of sand full of water, called the lower red sand, which in this position is one of the most difficult subjects a miner has to deal with. The main difficulty is not so much the removal of the material as the keeping it back, and preventing it running in on the apparatus and men; and in some cases this difficulty has caused the total collapse of the workings. Similarly in driving horizontally, the coming suddenly on such a bed when not prepared for it may lead to serious accidents. Such ground occurs even in the Cornish granite districts, where the miners call it plumb ground, and it may be so soft that planks have to be laid in the levels to walk on, in order to prevent sinking into it; and it shows a tendency to rise up into the levels.—2. The second class of ground is what may be called soft or fair ground, called by the Germans *mild*. This comprises certain kinds of tough clay, which can be readily cut; certain granites, gneisses, and porphyritic rocks; and others which would belong more to class 1 if they were not comparatively dry.—3. Jointy or scaly ground—*kurz, kleftig*—comprising a great variety of quartz material and vein stuff, clay-slate granite which is more or less intersected by veins, sandstone of the coal measures, which may be readily separated by joints, &c.—4. Shutting ground—*fest*—requiring explosives to break it. This division comprises the great majority of rocks in which mines are worked—hard sandstones or grits of the coal measures, for example. Where by the intervention of a flaw it is necessary to cut through a mass of this hard rock to recover the seam the expense and difficulty are great, and this would be still more the case if, as some people have suggested, the use of gunpowder for blasting should be forbidden, because so many accidents have been traced to it. This measure would certainly be very hard on those who have to work such mines.—5. This last division comprises the hardest varieties of rock, which the Germans would designate by *fest*, with a special adjective affixed; tight or close ground, requiring special means of working it. Such rocks occur here and there, under certain circumstances. The great class of metamorphic rocks as developed so largely in Sweden and Norway, Finland, &c., and again, to the North of the Harz, and in Transylvania. Some of the very hard capels of Cornwall, and of the elvan dykes, would come in this class, as also some of the very dense greenstones and dioritic rocks, and in the North of England rocks nearly adjoining the great whin sill.

If we consider next the varieties of implements used for working these different rocks, we shall find that those used with the first class are devised so as to remove the material as quickly as possible, and to provide for the introduction of arrangements to ensure the safety of the men. [The lecturer had on the table a large number of various kinds of mining tools, from different districts, illustrating his remarks.] A great variety of shovels are the main instruments employed, and on examining some of them we shall notice at once the difference of length between the short handled shovel of the North of England and the long handled shovel of the western districts. The blade is set on at a sufficient angle to the hilt, the great point about the long handled tool being that it requires much less stooping, and that when necessary the knee can be used as a fulcrum. It is exceedingly difficult to say with which form a man is capable of doing most work in a given time. These English tools are for overhand work, but on the Continent we shall see that their tools are very often for underhand work. Instead of throwing out the material it is usual for them to scrape it forwards into a kind of tray or box, which is then easily lifted and emptied into the wagon. In Spain they are very fond of scraping the materials into baskets, which they then empty into the wagons, and there is no doubt that by this method they cannot get through the same amount of work as could be done if the raw material were thrown over at once into the wagon. Another class of shovel must be mentioned, which is employed in gold and tin stream works, that has for its object the sifting of the material to a certain extent at the time of digging: some forms of it are like potato forks, with

very numerous prongs. Generally speaking it is the small material which falls through: that has to be afterwards dressed, the pebbles left in the spade being just glanced over, to see if there is anything worth being sent to the stamps.

For the second class of rocks the tool most commonly employed is the pick. [The lecturer recommended a book by Mr. W. Morgans on Mining Tools, as containing much accurate information on the subject, combined with good illustrations.] The pick is essentially the collier's tool, the metalliferous miner uses picks of a rather different kind. In the West of England a single pointed pick is almost universally employed. The Cornish pick has a hilt somewhat curved forward towards the point of the pick, made of the best wood, as ash; the head is of iron of the best quality, 15 inches long being an average size. The ends are steeled, one as a point for picking, the other as a hammer; the picks, as a rule, being made and repaired by the smiths on the mines. A great point to be secured is that the eye should not be merely of sufficient depth to enable the hilt to hold firmly, but also that it should not come too fine at the extremity, so as to be easily thrown out of the true position in which it is set. Another great use of the pick, besides that of penetrating by a blow, is as a lever, the leverage being obtained by means of the long handle, and the part about the eye has to be made sufficiently strong to bear this leverage. The hammer end is not usually left square, but the angles are chamfered off. A lighter pick, of very singular construction, is employed where the ground is more easily broken, and you wish to penetrate to great depths. Single pointed picks are employed on the Continent, and you will see in this one from Saxony that the hammer end is not so large, scarcely distinct at all. In some of our Pembroke anthracite districts single pointed picks were in use some years ago (the lecturer could not say whether they were still employed); in all our other collieries the use of the double pointed pick is universal. For some kinds of work, as in the getting of china-clay, a single pointed pick with the head considerably widened is used, and in some gold districts it is used as a clearing instrument. The double pointed pick is used by the metal miners of Derbyshire and the North of England in some cases, especially when cutting through a hard rock, and when they have plenty of room. The eye must be 2½ inches or more in length, and its hold on the hilt strengthened by cheeks, the sides of the hilt are frequently feathered at top, so as to give greater strength. When one point is blunted, or used up, the other is ready to be employed. The weight and form of the head vary according to the kind of work on which it is to be employed. Some have a straight head, but as a general rule it is more or less curved, the amount of curvature being determined by its lying in the circumference of a circle of which the radius is the distance from the head of the pick to the end of the arm working it. The longer the handle the more nearly then will the head approach to a straight line. One of the first operations in getting the coal is the holing, or *kirving*—that is cutting a groove underneath the mass of coal, either in the coal itself or in the rock beneath it. Then, if the coal is traversed by vertical joints it is readily broken down; but with certain classes of coal, or if working in a very narrow place, it will be necessary to cut a vertical groove on one or both sides of the mass, when it can readily be brought down by wedging. For the horizontal cutting a light pick, more or less curved, is employed, as it requires considerable experience to wield it properly in the position in which the miner has to lie; and, after all, there is a great variation in the skill of the men. In most coals of our central districts we can hole in to a depth of 3 or 4 feet, or in some cases even to 6 feet. In the latter case it is necessary for the miner to get right underneath the mass, and many accidents occur from the neglect of proper precautions as to propping and supporting the portion already holed. Some of these light picks from North Staffordshire and Wales weigh no more than 2 lbs. in the head; if the coal be harder, and requires a stronger blow, a heavier pick is used; and, as a rule, a heavier pick is employed for the vertical cutting than for the horizontal holing. The length of the hilt is from 25 to 30 inches, rarely from 30 to 35 inches, as in some of the Welsh mines. The form termed an anchor pick is preferred in the Durham district. It is always an essential thing to look to regarding these picks that, besides having sufficient length of eye to give them a firm hold, and to prevent their being turned out of position, the steeling of the points should be properly done. These points are never rounded, but have a somewhat pyramidal shape, or in some cases a very narrow shaped chisel edge. The picks receive various names, as pikes (Staffordshire), mandrils, or slitters. The most remarkable picks, perhaps, are those used in getting the great masses of oolite from the Box quarries, the handles being 6 feet long, and the head set on at a slight angle. It is necessary to rest the pick in this case for a moment before commencing the next blow. Nevertheless, rapid progress is made, about 25 blows per minute being given. In harder ground heavier and stronger picks must be used, as for instance in roading in the collieries, where you have to dig up the hard, strong clay. The lecturer did not think that we had much to learn from the continental miners with respect to the implements to be employed; our men have been pretty successful in devising tools best suited to their own districts. Nothing, for instance, can exceed the Cornish pick in its own class of ground.

The hammer and wedge were in former days, before the introduction of gunpowder, the chief means of breaking ground where it was of considerable hardness, the pick-head being sometimes employed in conjunction with the wedge. Wedges on the Saxon plan have a small hole in the middle, so that they look somewhat like small hammers; a handle can be inserted into this hole for the purpose of holding the chisel while driving it in. This method is very useful, especially when wedging up high. A number of these wedges are slung together on an iron strap and over the man's shoulder, thus leaving his hands free for climbing, &c. In Cornwall the wedge is somewhat of the same character, without the contrivance for using the handle; it is driven either by a special hammer or by the head of the pick.

Perhaps one of the most surprising things in the world is to see in the stone quarries of the ancient Egyptians at Syene, &c., the wonderful extension of this method of wedging; by its means they were enabled to get their obelisks of over 90 ft. long in a single stone, a feat which it appears we cannot now accomplish. In some cases wooden wedges are employed, put in dry and then moistened; or, again, we may use what is called plug and feathers, where an iron wedge is driven in between two cheeks of iron previously inserted, the sides of the hole being thus less broken. The hammers used are either single-handed (3 to 5 lbs. weight), or double-handed, and of various forms. Every collector of mineralogical or geological speci-

mens knows how important it is to have the edges of his hammer-face sharp; this is especially looked to in some of the Welsh quarries, and the face of the hammer between the edges is even indented. The cobbing hammer for dressing copper ores, and the buck and iron-plate, bound on to pieces of wood, for crushing ores, are both special forms of hammer.

BRITISH IRON TRADE ASSOCIATION.

The organisation which, under the title of the British Iron Trade Association, was formally inaugurated on Thursday promises to be as complete a success as the Iron and Steel Institute, which may be regarded as the parent society; the inaugural address of the first president, Mr. G. T. CLARK, of Downhills, commanding the same amount of unanimous approval as was given to the excellent address of the Duke of Devonshire which inaugurated the older institution. Having the advantages of nearly a quarter of a century's intimate connection with the subject on which he spoke, Mr. Clark was able to explain what were considered to be the requirements of the trade, and how the association over which he presides is likely to contribute to the attainment of those requirements, in the clearest language; and although professedly regarding the position from the master's point of view, many of his observations were equally worthy of the consideration of both employers and employed. He does not fail to recognise the fact that in the hands of the professional agitators who have now the chief control of the working classes the ignorance of the majority of workmen is far more dangerous to the general welfare of the community than some persons suppose. Servile obedience to the principles of trades unionism, as carried on by the workmen of Great Britain, could not possibly be obtained from men of even moderate education, and hence it may be hoped that the time is not far distant when the machinations of delegates and the trades unionism which they uphold will be alike helpless to injure the trade of the country generally and the working classes in particular.

The object of the British Iron Trade Association is to promote the commercial interests of the iron trade by systematic and friendly interchange of views and opinions, just as the Iron and Steel Institute promotes the industrial interests of the trade by keeping every member well posted with regard to every improvement introduced and discovery made. Mr. Clark remarked that iron, if not the metal of highest price, has ever been that of the greatest value—that of which the world could least afford to be deprived, and it has played a more important part than any other mere material agent in the civilisation of mankind. And if this be true of the earlier and the middle periods of the history of the world, it is still more remarkably so of the age in which we live, when the employment of iron in railways and for other purposes of construction, especially in large buildings, has increased its production in a very marvellous manner, and has combined with other means, also of rapid growth, to alter all the conditions of the manufacture, and to produce a sudden and complete revolution in the trade. It is, moreover, observable that these changes, excessive as they are, have not been brought about by war or violence, but by causes perfectly natural, though ordinarily slow in action, which during the last few years have operated with accelerated speed.

It is essential in judging of the accuracy of the views put forward by any given writer to take them in their entirety. Mr. Clark observes that it is the operation of that great natural law by which supply adapts itself to demand, which causes men to buy in the cheapest and sell in the dearest market, and he thinks that in accordance with this each nation should be left to supply freely that article which it produces at least cost. He continues that under the teaching of Adam Smith, and led by Cobden and his disciples, England has discovered that even in a fiscal point of view light taxation upon the increased production caused by free trade best fills the exchequer. No one will dispute Mr. Clark's views that free trade secured advantages to England so long as the cost of production in this country was so low that we were enabled to compete with foreign manufacturers at their own doors, but now that, frequently by the use of our own tools, foreigners have rendered themselves independent of us, it may turn out that Adam Smith was justified in concluding that free trade was "too Utopian a blessing ever to be enjoyed among men," for he may have comprehended better than some who suppose themselves to be his disciples that it is a natural law for the people of each country to do their best for themselves before considering the benefit to result to other nations from their decisions.

There are innumerable theories which are admirable as such, yet incapable of being advantageously reduced to practice, and the present position of the iron trade may lead some to reconsider the value of the theories which they have adopted. The president of the British Iron Trade Association declares that "at this time it is utterly impossible to deny that that immense discovery of British industry known as the iron rail trade is slipping out of our hands. From some reason, or reasons, the iron rail trade, recently so large, has shrunk to nothing." If the association over which Mr. Clark presides can do anything to remedy this state of affairs it will deserve well of the country, and it may be hoped that he is correct in his observation, made when speaking of the value of statistics, that something may be gained by obtaining accurate information as to what form of iron can be exported at a gain, so as in some degree to turn the flank of a hostile tariff if we cannot meet it in front. It is acknowledged that free trade to be effective should be universal, and this is, no doubt, true, so that Mr. Clark's evidence of our power to secure universality is the more valuable. He reminded the members that English capital had been largely invested in Spain in opening iron mines, and in forming communication with the port of Bilbao, and that the Spanish Government—if Government it can be called—has taken occasion when that portion of the country is convulsed by insurrection to lay an export duty on a trade which they ought for their own sake to encourage by every means in their power.

That the operations of the association will be beneficial to the trade generally cannot for a moment be doubted, and it is equally certain that in Mr. Clark the members have a president whose knowledge of the actual state of affairs is unsurpassed. He very truly observes that during the latter part of the period which terminated with the battle of Waterloo England was supreme in the markets of the world for manufactured goods; but the fall of Napoleon, and the repose that followed, enabled other nations to come forward in the race, and whatever may have been the continued progress of England—and it was great—France, Belgium, Germany, and the United States gained greatly upon her. Mr. Clark appears to be favourable to trades unionism, the sole restriction which he would put upon it being such as would prevent what is practically compulsory membership, and steps which limit production, his view (a very correct one) being that where production is artificially limited it is disadvantageous to all concerned. The address was very well received by the large meeting, and at its conclusion a cordial vote of thanks was passed. Between 70 and 80 gentlemen were present, amongst whom were Mr. Hunt, Chairman of the Staffordshire Iron Trade; Mr. E. Williams, of Middlesbrough; Mr. Geo. Thomson, of the Ruabon Ironworks; Mr. A. Howlett, of the Wigan Coal and Iron Company; Mr. W. Page, of the Mining Association of Great Britain; Mr. J. Robinson, Atlas Works, Manchester; Mr. Leeman, M.P., Rosedale and Ferry-hill Iron Company; Mr. H. Robertson, M.P., Plymouth Iron Company; Mr. R. Lindsay Pratt, Steam Ironworks, Darlington; Mr. Charles Markham, Staveley Iron Company; Mr. Newmarch, F.R.S.; Mr. W. Whitwell, Mr. Bird (W. Bird, of London), Mr. Fowler, of Sheepbridge Ironworks; Mr. John Lancaster, Chairman of the West Cumberland Ironworks Company; Mr. Robert Hunt, F.R.S., of London; Mr. Isaac Lowthian Bell (Bell Brothers, Middlesbrough), ex-President of the Iron and Steel Institute; Mr. B. Samuelson, M.P., of Middlesbrough; Mr. Whitelaw, M.P., of William Baird and Co., Gt. Gt. Gt. Mr. W. Menelaus, President of the Iron and Steel Institute; Mr. W. Jenkins, Consett Iron Company, Durham; Mr. A. Hood, Glamorgan Coal Company; Sir J. G. N. Alleyne, Butterley Iron Company, Derbyshire; Mr. Wilson Lloyd, Wednesbury; Mr. W. Evans, Bowling Iron Company; and Mr. Mundella, M.P.

The first paper read was that "On the Board of Arbitration and

Conciliation for the North of England Manufactured Iron Trade," by Mr. Bernhard Samuelson, M.P., but the notice of this and of the subsequent proceedings must be reserved until next week.

THE GOVERNMENT IRONMAKING EXPERIMENTS IN CENTRAL INDIA.

Mr. WALTER NESS, who is conducting the ironmaking experiments with native coal and ironstone in the Central Presidency on behalf of the Indian Government, has forwarded a further communication to the South Staffordshire Mill and Forge Managers' Association, in which he replies to queries by its secretary. The queries appear in the answers, which are interesting in their details, to everyone concerned in the production of iron. Mr. Ness explains that:—1. The coal would not in any sense coke—that is, it would not stick together. In the laboratory he found conclusively that if the volatile combustible matter was driven off, the remainder (coke) would contain from 22 to 23 per cent. of ash.—2. The proportions used were, coal 2 cwt., iron ore 1 cwt., limestone 28 lbs., and charcoal 20 lbs., and there was added a blank charge of coal in every 10 to 16 charges.—3. The temperature of the blast was only about 150° Fahrenheit.—4. The heating apparatus was mainly to dry the air. In September, when the trials were made, the Indian air was saturated by moisture, the result of the month, being the latter part of the monsoons. The tuyeres of the furnace in which the trials were made were 2½ in. in diameter at the end, while the bottom and top of the hearth measured respectively 2 ft. and 2½ ft., and the height of the tuyeres was 3½ ft. The ash in the coal, with a very refractory iron ore, was the trouble to be got over; the coal, having a lot of moisture in its composition, was the cause of the decrepitation, and this made it lose its vitality on entering the furnace, and before the succeeding charges were put in. No extra height of furnace would get over this. Besides the coal at its best was friable, and with the height of furnace used—say, 24 ft.—was dust ere it reached the boshes. Anthracite would act very differently; even though crushed small it would retain its carbon. The coal Mr. Ness experimented with did not retain more than one-third of the fixed carbon it had when charged by the time it reached the zone of fusion. These features were verified on emptying the furnace twice, and they contributed to the excessive amount of spongy slag, which was so troublesome in forming blocks on the nozzles. The tuyeres had a dip of one in ten, or thereabouts, yet it was almost impossible to keep them clean. Had the bosh commenced at the tuyeres he expected that the abundance of spongy matter would have effectually blocked up the whole of the tuyeres in an hour. The magnetic iron ore underwent very little change by calcination; however, he tried some of it, and all the iron ore he had in the shape of brown iron ore he calcined to get rid of foreign matter as much as possible. Since his last letter he had tried some pulverised ore made into balls with milk of lime, and exposed them to the heat of the reverberatory furnace, gradually increasing it. Ultimately, with the aid of the blast and the use of the blow-pipe (previously described), Mr. Ness got out a ball of good iron weighing from 10 lbs. to 12 lbs. Samples of the iron made by the three processes had been sent to the Government, and the letter continued:—"All the future must now await their decision." In conclusion, Mr. Ness pointed out that the colliery was being opened out successfully, although much burthened with water. A more substantial or tidier place was seldom seen at home, for the pumping-shaft was already covered, the winding-shaft was to be covered by-and-by, and all other parts would have to be covered to protect those working about the pit from the sun.

Mr. Ness, it is clear, has given up all hope of being able to produce with native fuel of commercial value by aid of the blast-furnace. The leading members of the South Staffordshire Association are not so certain that Mr. Ness need abandon all expectation of utilising the native minerals in this way. It is thought that by varying the proportions of coal to ironstone, and varying likewise the mixtures of poor and rich ironstone, somewhat more successful results may be obtained. Further, and perhaps complete, views will be enunciated at the forthcoming annual meeting of the association, at which two of the best furnace managers in South Staffordshire have pledged themselves to be present, and express their opinions and give their advice. It will, however, have been noticed that Mr. Ness has not confined himself to the blast-furnace. Samples of iron produced in a reverberatory furnace carefully handled are amongst those which have been sent to the Government at home. Indeed, three processes have been tested by Mr. Ness, and upon what has been done by these the Government is asked to decide about future operations. Mr. Ness evidently believes that a direct process may be accomplished that which he has not been able to effect in the furnace. His communication also refers to the inventions of Mr. Siemens, Mr. Little, Mr. Blair, and Mr. Larkin, and he is not without hope that at Woolwich some mechanical arrangement capable of utilising the poor coal of the Central Presidency in smelting its rich ore will be devised. The public should certainly not conclude that there is no reasonable ground to anticipate that the object for which Mr. Ness was in part sent to India will not be achieved—we say in part, because it will be remembered that Mr. Ness has in the development of the Warora coal field, as to which Mr. Ness's communication is altogether satisfactory.

HURD AND SIMPSON'S PATENT AIR-COMPRESSING, AND SELF-ACTING COAL-CUTTING, MACHINERY.

A paper read by Mr. F. HURD before the South Staffordshire and East Worcestershire Institute of Mining Engineers at the annual meeting.

Having been requested by your secretary to prepare a paper on your efforts, especially in reference to mining and excavating coal by your patent machinery, it gives me great pleasure to comply, knowing the great importance of the subject and the necessity for the adoption of machinery. It is not necessary to remind you of the changes which are likely to take place in the trade of our land if the enormous price of fuel is to continue. It is stated that in some of our large manufacturing concerns the last two years' profits were nearly absorbed by the extra price paid for fuel, which in some cases even exceeded the profits, to say nothing of the loss of some concerns not being able to fuel at any price in 1873-74, so as to work full time. All this must be injurious to our commercial greatness, by throwing the trade into foreign countries, where the cost of material and labour is less than in our own. However, it is pleasing to find that our efforts are not crippled or destroyed by the labouring classes (but let us please to note the indifference of the majority of colliery owners), as was the case with former attempts to supersede manual labour by machinery in other branches of trade. There is great credit to be given to the colliery in this respect, but it must be remembered that though the colliery's work is most laborious, he is not to possess talent and energy. If a collier can hold 5 yards of coal per day of 10 hours 1 yard deep in medium hard coal he is counted an expert workman, yet he does not grumble, but hails the work done with a satisfaction which none are capable of conceiving but himself, for when the coal is undercut with our machines (one of which I shall presently show you) he (the collier) counts it as ready cash, to use his own term.

Our machines the coal is undercut at night and falls in readiness for the following morning, without a shot or a wedge being required in most cases, and the collier who is to fill and send out his wagons at once without the labour of hoisting the coal which formerly taxed him so much both bodily and mentally, for where the coal is undercut on the face being holed, which is most frequently the case, the collier is a constant fear lest that portion should weigh off and thus crush him to death, and the colliers know to a few seconds by the sound when the coal will part, and are down, but for all that they are sometimes caught, and it is reported by an experienced and influential Government Inspector of Mines that more deaths and accidents result from this cause than from any other in mining operations, a fact which we claim, since the casualties are not often published. The great advantage we claim, by the use of our coal-cutting machines is—the saving of the coal, the face of coal being regular in nearly all cases the coal so undercut can be worked, being easily connected by hose piping from dock siding meterdents. The moving of points and signals, also placing, withdrawing, and replacing of fog signals with mechanical pressure on our railway systems with much more certainty than the present wire and lever system, and even telegraphs, with the quickness of electricity, and by a dial or sliding arrangement of stationary printed words used in all business transactions the message by pointer could be read off without the complication and practice of the present telegraph system. However, notwithstanding the points gained to perfect the appliances for compressing air for the working of our coal cutters, and for other purposes, it was thought that the cost of laying down piping in a coal mine to convey the compressed air to the different places necessary to work the coal cutters was so considerable as to prevent their use generally, and it is a fact that some time ago, at a meeting of colliery owners, held at Barnsley, our late and esteemed Mr. E. F. Simpson, being one of the owners of Land Hill Collieries, moved that machinery be adopted for undercutting the coal, and expressed himself most certain that it must come to it sooner or later, and the sooner the better. However, his wisdom and foresight were ahead of his colleagues.

They thought the machinery not sufficiently perfect to accomplish the work necessary to be done, but not because they knew, and they objected to the first cost in putting down the necessary air-compressing plant and piping for working the coal cutting machines. Since that time Mr. E. F. Simpson, who had for many years shown an example in adopting machinery worthy of imitation, actually invented and accomplished a remedy, which is patented in our joint names, by which the cost of laying down the plant is brought down to a minimum, and within the reach of all interested. This invention consists in making the air compressor portable, and placing it near the machine to be worked as shown in this paragraph, which is placed conveniently so as to undercut a large area of coal with the cutting machine without moving it unnecessarily, and is worked by horses or by our new steam and power generator, expanded and intensified by gases combined with the steam (on which I intend to read a paper at a future time) in such a manner as to neutralise any carbonic acid or other deleterious gases which may be given off by the fuel, and also to decompose the exhaust steam from compressing engines. The feed of fuel to furnace of same is also being constructed in such a manner that any amount of gases given off from the workings cannot possibly communicate with the said furnace. Thus no explosion can possibly occur by its use. The above machine is used instead of erecting the air compressor on a stationary foundation, and conveying the compressed air through pipes to the machine to be worked, which in collieries and most other cases involves a great outlay in piping. It is, further, pleasing to notice that Mr. E. F. Simpson joined me in my efforts to carry

and the addition to his profits, will be seen at a glance. In seams where there is a bind of blue stone, or where the coal is so hard as to vary their height and angle of cut so as to undercut in these worthless portions which invariably get mixed up with the good coal when got by hand, but when got by our machine it is cut clear out by them, and can thus be thrown into the goaf before the coal so undercut comes down, thus preventing any mixture of dirt.

The use of our patent upheaving shovel, which in this case heaves up the bottom portion in large pieces after the top portion has been undercut and removed. The wedge shovel is 14 in. wide, and is partly double wedged, in order to prevent its slipping sideways when the power is applied; the full length of the wedge is 24 in., with a taper of 8 in., and a screw traverse of 30 in. All the parts are made of steel. The screw is provided with a suitable abutment bracket to resist the force, which is applied by hand lever and ratchet, or it may be applied by water or air pump, but the screw is preferable. It is shown abutting against iron props, as used by the Wharfedale Silkstone Coal Company, near Sheffield, but it can be used where ordinary timbers are used for propping.

In reference to the construction of the machines, they consist chiefly in the use of a screw, which, the ordinary or stocks in which the fixed being placed eccentric to the fulcrum on which the cutters revolve, the motive-power cylinders being 6 in. diameter and 12 in. stroke. The cutters are driven by an ordinary bevel pinion, and the pressure is resisted by anti-friction bowls, which also act as drivers, thus dispensing with guides and slides. The cutters are put into or taken out by a swivel nut and screw acting on the lever, or radial arm, in which the cutters revolve, or by a pinion and quadrant. The cutters are made of plain square titanium steel, manufactured by Messrs. Osborn, of Sheffield, set sideways above and below, and allowing for clearance of the disc, and they are adjusted radially to vary the depth of cut, according to the quality of the coal or mineral. In one of our machines the cutters are driven by a double pinion, with bevel teeth, and a recess to embrace the inner centre ring.

The leading end of the machine is kept in position on the rails when at work by a bowl mounted in a differential lever with self-acting adjustment, to adapt itself to inequalities on the face of the coal, and the machine is so portable and compact that it can be moved from one part of the pit to another with facility, or taken up and down the shaft in the ordinary cage for winding the coal, weighing but 5 cwt. The machine is self-acting in every way, and requires no attention in most cases during its rapid undercutting, neither is there any labourer required to remove the cuttings (which are good round slack) out of the way of the forward progress of the machine, this also being done by the machine. The machines are also so compact that the props for roofs of mine can be placed so near to the face of coal as 29 in., leaving ample room for the machines for effectually working.

Our improved apparatus for expanding and intensifying the pressure of the compressed air used for driving coal-cutting or other machines consists of a vessel containing a perforated crucible, which is charged with ignited fuel. A check valve, or valves, is placed near the entrance of the crucible to prevent the air escaping back, which gives results as 1 is to 12.

It will be seen that they are of different construction, and arranged especially to meet every condition of coal seams—from 18 in. in thickness upwards—and to make their cuts at any angle or height required, either horizontally or perpendicularly, as before stated, all the motions being self-acting. Now, in reference to the work these machines are capable of doing, we take as a base the average of our many experimental and published trials, which date from 1869 up to the present time (see *Engineer*, Nov. 26, 1869, page 347, and *Colliery Guardian*, Nov. 19, 1869). During this period we have worked many different machines, each being improved in its course up to the present, which we consider complete, and capable of meeting every necessary requirement in any seam of coal varying from 18 in. upwards.

In reference, then, to their cutting rate, it is proved that with a working pressure of 30 lbs. to the square inch of air they undercut, in medium hard coal, 2½ in. deep, 1½ in. wide, 3 in. high, of 240 square feet in 1 hour, thick in the same time. But taking stoppage into account for removing machines and adjusting for their re-cutting, their average is one-third less per hour than the amount stated, 1 yard deep from face of coal; but if it be convenient to have a working pressure of 50 lbs. to the square inch, the cutting rate can be increased to 1 yard per minute 1 yard deep. But it does not follow that this rate of quick cutting is economical; in fact, it is not so, since the extra cost for renewed cutters is against it.

Now, in reference to the hard stone coal of the hardest kinds, such as we are working for at the Wigan Coal and Iron Company, our machines, with 20 lbs. pressure per square inch, undercut 7 yards per hour on the average, and the cutters will run from six to eight shifts of nine hours without re-sharpening, the groove cut being 3 in. The machines are made of sufficient strength to resist this rate without breakage or heating of working parts, beyond which is counted reasonable wear and tear. The total cost per yard undercut by our machines is less than by hand labour, saying nothing for quick returns. Our contracts are at present for the same price per yard forward undercut 1 yard deep, 2½ in. groove—1s. 6d. per yard, we find that the machinery and workmen, the collier laying the road and preparing the faces of not less than 30 yards in length. It may be here stated and easily seen that the stated rates of undercutting would require all the hands that could possibly be got into the said face of coal, so rapidly undercut and brought down, to fill and send out the same, so that the machine might recommence undercutting every alternate day or night in the same bank, so as to secure good condition of the roof, as I shall presently explain. Thus it will be seen that the demand for hands is not great, and that the use of our machines, also that the colliery owner would have quick returns. If worked in India, and still plan the rates are in proportion to those paid by the collier; but this system is not only expensive, but very dangerous, on account of the intricate, costly, and difficult mode of ventilation, and it will most certainly go out of use by the adoption of our machinery—(1), because of the greater ease of securing safer ventilation and of working on a straight face; (2), because the coal having been undercut, would be down before the roof had time to settle. Thus, at many places where pillars and stony roof are not wanted, the roof of the mine is so bad and weighty that faces of 30 yards could not be maintained with safety, we have found that when the seams have been struck their boundaries are worked up half board and half endways on, and undercut by our machines. The same has been worked with an open face of 1000 yards in length with more safety from falls of roof and better ventilation than ever before experienced in the same seam.

Now, in reference to our heading, tunnelling, or straight work machines, they are of equal importance, and have the same rate of cutting speed per yard as the undercutting machines, and are worked on different faces, and in different directions, to the forward yardage only. For example, we make three cuts one yard deep, two side cuts, and one bottom cut (and if preferable a top cut) in a heading of 5 ft. 6 in. high by 9 ft. wide, in solid coal, for 10s. to 13s. per yard forward in a medium hard coal. When these cuts are made we adjust a 1½ in. bore drill, in some cases, to the machine, and in two minutes bore a shot-hole 3 ft. deep; the machine is then run back a short distance, when a shot is placed and fired. During the whole time the ventilation is kept up by a slight outlet of compressed air which is forced out of the machine, and no bracing or other support is required, for heading work done by our machine effects a considerable saving. The average time occupied in such a heading for making the cuts, with 20 lbs. of working air-pressure to the square inch, including the boring of shot hole and placing the shot to bring down the coal thus cut out, and to remove the same, which is good round coal is on the average 63 minutes, so that it will be seen at once that, instead of waiting for only 5 yards forward for every 24 hours, which is exceedingly good work by manual labour, you would have, by the use of our machines, five times that amount of work done in the same time, and at a less cost, and all the coal thus got is large coal. We can arrange to cut various sizes of headings, either in height or width, without moving our machine from the ordinary rails. They are capable of being worked by one ordinary person who has sufficient sense to keep the parts of this machine properly lubricated. Now, in reference to the air-power by which these machines are worked, it may be said to be of ancient origin, since its agency has a recent motive power, which was used and known by the Egyptians, in order to decrease the weariness of the gods made by human hands. Yet, until our efforts of recent date, there has been no record of any means by which atmospheric air could be stored up at a high pressure, to be given off again as a motive-power for the use of engines, or any other machinery, which should be equivalent to the amount of power which has to be expended in so storing a given quantity. The want of this machine has done more than anything else to retard the progress and adoption of our machinery in mining operations. Most machinery at present in use for compressing air does the work at a cost of 50 per cent. Even at this rate of loss it follows that the equivalent of a man's power exerted for a day of 10 hours in cutting coal can be obtained out of compressed air at a cost of fuel of 3½ d. for the same number of hours. Nevertheless, this loss of 50 per cent. of power applied to compress the air has been sufficient reason to frighten those who wish of applying air as a motive-power. This was the difficulty which we had to overcome, and we have succeeded, since by Messrs. Firth and Hurd's patent machinery we can with 1 lb. of steam pressure produce 3 lbs. of compressed air.

The application of this theory is illustrated in an article with drawings we entered in the *Colliery Guardian*, Dec. 22, 1871, it will be seen that its use could be universally adopted as a motive power, which would be distributed at a less cost to manufacturers than their present appliances for making direct steam power, and it is a fact that figures show that the vast cost of cartage of fuel at one of our large towns for steam generating purposes would in one year cover the cost that would be necessary for a colossal air-compressor on the patent plan, constructed and concentrated in convenient places in the said town, as is now the case with gas making. Even long distances, or other vessel cranes, could be worked, being easily connected by hose piping from dock siding meterdents. The moving of points and signals, also placing, withdrawing, and replacing of fog signals with mechanical pressure on our railway systems with much more certainty than the present wire and lever system, and even telegraphs, with the quickness of electricity, and by a dial or sliding arrangement of stationary printed words used in all business transactions the message by pointer could be read off without the complication and practice of the present telegraph system. However, notwithstanding the points gained to perfect the appliances for compressing air for the working of our coal cutters, and for other purposes, it was thought that the cost of laying down piping in a coal mine to convey the compressed air to the different places necessary to work the coal cutters was so considerable as to prevent their use generally, and it is a fact that some time ago, at a meeting of colliery owners, held at Barnsley, our late and esteemed Mr. E. F. Simpson, being one of the owners of Land Hill Collieries, moved that machinery be adopted for undercutting the coal, and expressed himself most certain that it must come to it sooner or later, and the sooner the better. However, his wisdom and foresight were ahead of his colleagues.

They thought the machinery not sufficiently perfect to accomplish the work necessary to be done, but not because they knew, and they objected to the first cost in putting down the necessary air-compressing plant and piping for working the coal cutting machines. Since that time Mr. E. F. Simpson, who had for many years shown an example in adopting machinery worthy of imitation, actually invented and accomplished a remedy, which is patented in our joint names, by which the cost of laying down the plant is brought down to a minimum, and within the reach of all interested. This invention consists in making the air compressor portable, and placing it near the machine to be worked as shown in this paragraph, which is placed conveniently so as to undercut a large area of coal with the cutting machine without moving it unnecessarily, and is worked by horses or by our new steam and power generator, expanded and intensified by gases combined with the steam (on which I intend to read a paper at a future time) in such a manner as to neutralise any carbonic acid or other deleterious gases which may be given off by the fuel, and also to decompose the exhaust steam from compressing engines. The feed of fuel to furnace of same is also being constructed in such a manner that any amount of gases given off from the workings cannot possibly communicate with the said furnace. Thus no explosion can possibly occur by its use. The above machine is used instead of erecting the air compressor on a stationary foundation, and conveying the compressed air through pipes to the machine to be worked, which in collieries and most other cases involves a great outlay in piping. It is, further, pleasing to notice that Mr. E. F. Simpson joined me in my efforts to carry

out and further perfect our joint ideas for the full accomplishment of this really much-needed undertaking. Coal mining machinery which up to now has cost nearly 16 years of study, and a sum approaching to nearly 13,000,000, so far as we are concerned, to say nothing of outsiders now trying to evade our patent inventions, but they will, no doubt, find it a bad policy to pursue, and it is to be hoped that colliery owners will note this, and not grudge paying a fair royalty, so that we may be repaid.

However, for the first time, we perceive the important problem of mining coal by our machinery at its crowning point, and it is calculated in every sense to accomplish that which will be the greatest boon imaginable to the miner himself, seeing that it will relieve him from the most dangerous and laborious part of his toil, and we doubt not that when the time comes the miner will hail those who persevered to relieve them of their irksome toil by machinery, instead of cursing them, as it is supposed they will.

In fact, we have good ground to state that it has already been a matter of consideration amongst the miners themselves as to the desirability of colliery owners applying machines to undercut the coal, since they are aware that the roofs of the faces are safer for them by their use, and a better ventilation. And we do not hesitate to say that so soon as it becomes known by the majority of miners, and they see that machinery will reduce their dangerous and dreary toil, they will make a move for its general adoption, as they well know that more lives are annually sacrificed while in the act of holding than by any other means. In fact, so anxious are managers of collieries to reduce this state of things, that at the usual monthly meeting of the members of the Midland Institute of Mining Engineers, held at the Victoria Rooms, Barnsley, a few months ago, Mr. Madisson, of Thornhill Collieries, near Dewsbury, the President in the chair, one of the principal questions under discussion was the desirability of enquiring into the merits and capabilities of the various coal-cutting machines now in use, with a view to their adaptation to colliery work.

It was resolved that the Council of the Institute, together with a committee of 12 of its present members, should be empowered to make the necessary enquiries, and test the various machines now at work. It was also agreed that the committee be authorised to spend 500. in presenting their enquiries, but the district colliery owners, it was intimated, would doubtless bear any additional expense which might be incurred by the Institute. This statement is merely made to show that colliery managers and owners are now equally in earnest in their intentions to adopt machines for the safer and more economical working of their mines, &c.

In conclusion, we may judge from experience from our efforts referred to that the owners of collieries may look forward to a better supply of coal, greater profit, quick returns, and less risk, if they will but adopt the ample means provided for them, and to the more safety, better ventilation, and a less solitary and irksome style of labour.

FOREIGN MINING AND METALLURGY.

A slight revival is noted in the coal trade in some parts of France. This revival may be attributed to the resumption of deliveries by water. In the Pas-de-Calais a rather sensible firmness has appeared in prices. The intelligence to hand from St. Etienne is of a rather contradictory character; the consequences of the shocking catastrophe which occurred recently at the Jabin pit are still felt. No one can fully appreciate at present the financial results of this sad event. The coalowners of the basin of the Loire are also suffering from the consequences of the depression which prevails in the iron trade in that part of France. The Carvin (Pas-de-Calais) Mines Company will pay, April 1, an interim dividend for 1876 at the rate of 16s. per share.

An Odessa letter says an endeavour to drive English coal from the South of Russia by Austria has so far signally failed, notwithstanding the low rates of freight at which the latter has been introduced. An attempt is now being made to compete with the Newcastle coal by means of Prussian (Tarnowitz) and Austrian (Dombrau) coal mixed, and offered at low prices. This attempt is proving comparatively successful, and tolerably large quantities have been placed in the Odessa, Proskuroff, and Scherinka markets. The markets are being fed gradually at the rate of from six to eight trucks per day in order that they may not become glutted.

The geological survey of North Carolina contains notices of its economical products. Iron is extensive, and gold and copper have also been profitably worked. The coal field of Deep River has an area of about 300 square miles. An analysis by Dr. Genth showed that two samples contained respectively 63.25 and 70.48 per cent. of fixed carbon. Dan River coal yielded 75.96 and 78.56 per cent. of fixed carbon.

Business in copper has continued quiet at Paris, and transactions have exhibited a downward tendency. Chilean bars, delivered at Havre, has made 85½; ditto ordinary descriptions, 84½; ditto in ingots, 83½; English Tough cake, 86½; and pure Corocoro minerals, 85½ per ton. The Marseilles copper market has been feeble, and without much business. The situation of the German copper markets has not experienced any material change; the requirements of consumption have been comparatively unimportant, and have been easily satisfied. Tin has remained in much the same state upon the Dutch markets; Banca has been quoted at 50½ fls. Transactions in Bullion have been considerable, and several thousand ingots have changed hands at 47½ fls. Banca, delivered at Havre or Paris, has made 90½; ditto Straits, 84½; and English, delivered at Havre or Rouen, 84½ per ton. The German tin markets have been very quiet, and transactions have generally made default. At Paris, French and Spanish lead has brought 22½ 12s. per ton, and English 22½ 16s. per ton. The Marseilles lead market has indicated some indecision; at the same time argentiferous lead has been in demand at high rates. The tone of the German lead markets has not experienced much change; transactions are rare, but prices have been pretty well supported. Zinc has been maintained pretty well at Paris at 28½ 8s. to 26½ 12s. per ton. The German zinc markets have remained firm.

The state of the French iron trade remains much the same. French ironmasters are not able, like their neighbours in Belgium and Germany, to have recourse to the friendly intervention of the Government to help them out of their prolonged difficulties. The death is announced of M. Thomé de Gamond, whose decease occasions a lamented void in the French engineering world. M. Thomé de Gamond, who was 68 years of age at the time of his death, will be remembered for the somewhat prominent part which he took of late years in promoting the construction of the proposed great submarine tunnel between France and England.

At the last metallurgical bourse at Brussels there was a considerable attendance, but no important transactions were effected. The growing feebleness of the Belgian iron trade continues to be remarked, and the fact has also not escaped attention that English firms have been offering pig for sale upon the Belgian markets upon lower terms. The Belgian Government is preparing to give some employment to the Belgian construction workshops, some of which have been idle for several months past. Thus this week an adjudication is to take place for the ironwork of a bridge at Arquennes, as well as for 40 tenders for locomotives for the Belgian State Railways. Contracts are about to be let also for additional break vans, goods trains, additional first, second, and third class carriages, and additional coal and other trucks for the Belgian State lines. At an adjudication for iron rails which has just taken place at La Haye, the Belgian works which competed vanquished all other opponents, as well German as English. The three lowest tenders were submitted by MM. Aihemar, Le Roy, and Co., the Thy-le-Château Blast-Furnaces, Forges, and Foundries Company, and the Acoz Forges Company; as the two latter works are not, however, prepared to fulfil the conditions of the Dutch *cahier des charges*, it is probable that the tender of the Acoz Company will be finally accepted; the price named in this tender is 8½ 1s. 3d. per ton delivered at Rotterdam. For some time past the Acoz Forges Company appears to have secured an almost exclusive monopoly of the Dutch rail market. It appears from a calculation which has been made on the subject that Germany now possesses 18 works, comprising 71 converters, devoted to the production of steel; of these converters 61 are within the limits of the late kingdom of Prussia. M. Deby has been instructed by the Belgian Minister of the Interior to make a special report on the Metallurgical Department of the Philadelphia Exhibition, with more especial reference to the commercial interests of Belgium. Advances received in Belgium from Bochum complain of continued depression in the iron trade of that district. The production of pig effected in the Dortmund district in 1875 presented no sensible variation as compared with 1874, but the production of forged and rolled iron exhibited a decline of 27 per cent. The production of steel in the Bochum district appears to have also declined last year.

During the past week the condition of the Belgian coal trade has not experienced any very sensible change. The close of the winter season is approaching, and will, of course, bring with it a falling off in the demand for domestic qualities of coal. This being the case, unless metallurgical industry regains in the spring something of its old activity, the coal trade will fall into a condition of complete

and profound depression. For the present consumers maintain an attitude of the greatest reserve as regards the conclusion of important contracts, being readily enabled to obtain from day to day the quantities of coal called for by their requirements. Advances from Bochum report no revival in the coal trade in that district; the quantity of coal conveyed by railway from the district has even experienced a slight diminution. Prices have also been declining for all qualities; with the close of the winter a further fall is anticipated. A Belgian official return shows that in 1874 there were no fewer than 1586 engines at work in the collieries of the Belgian basins. There were, further, 4995 horses employed, 84,634 workmen below ground, receiving an average daily remuneration of 3s. 8d., and 24,997 surface hands, earning an average daily remuneration of 3s. 4d. The total production of coal effected in Belgium in 1874 was 14,669,000 tons, of the aggregate value of 9,636,400l. The profit realised for the year was 918,491l. Belgium exported in 1874 a total of 4,758,000 tons of coal and coke. In the same year coal and coke were imported into Belgium to the extent of 467,420 tons. The home consumption of coal and coke in Belgium in 1874 was 10,378,000 tons.

Meetings of Public Companies.

ANDREW KNOWLES AND SONS (LIMITED).

The following report was presented to the meeting, held at Manchester, on Tuesday:—

Your directors have the pleasure to submit the balance-sheet, duly audited, showing the result of the second year's operations of the company. The accounts have been made up showing the total profits of the year and the charges for interest on mortgages and reserve fund, the amount available for dividend, &c. The total profit for the year, as per balance-sheet, is 112,263l. 15s., which it is proposed to appropriate as follows:—

| | |
|---|--------------|
| First half-year's interest on mortgage debenture bonds (less income tax) | £12,395 16 8 |
| Second ditto ditto | 12,395 16 8 |
| One year's interest on amount of calls paid in advance (less income tax) | 2,286 14 8 |
| One year's interest at 5 per cent. on the reserve fund, as per Articles of Association | 4,582 8 10 |
| To write off preliminary expenses | 2,000 0 0 |
| Interim dividend at the rate of 10 per cent. per annum for the first half-year (already paid) | £21,250 0 0 |
| Further dividend on second half-year, making up the year's dividend to 12½ per cent. on the called up capital | 31,875 0 0 |
| Amount to be carried to reserve fund, which will then amount— with the addition of the interest above named—to 117,779l. 15s. | 21,968 9 5 |
| Balance to total account | 3,534 7 9 |

Total

The reserve fund of 117,779l. 15s. has been used in the business of the company, and has been invested and appropriated as follows:—

In the purchase of new properties, and in additions made to properties and plant

Increased stock, stores, &c.

Balance included in the general excess of assets in debts owing to the company over liabilities

Total

Your directors have the pleasure to report that the negotiations referred to in the last report as being in progress for the acquisition of the surface and minerals of an estate at Pendlebury, have been completed, and the contract for the purchase has been signed. Satisfactory progress has been made during the year with the further development of the Radcliffe Collieries. The get of coal and the quantity sold in 1875 have been in excess of those during the previous year; but the prices realised have been lower, which accounts for the diminished profit accrued during the past year. Your directors have taken on lease a plot of ground at Miles Platting, with the view of forming a large wharf, to be connected by a siding with the Lancashire and Yorkshire Railway; the land also adjoins the Rochdale Canal. They consider this will be a depot well situated for a regular trade, and where large quantities of coal can be stocked in the summer months ready for winter. In order to obtain the lease more land had to be taken than was absolutely required for the wharf; this surplus your directors are now prepared to sub-let. At the Lever Collieries a small plot of land has been leased from Mr. John Fletcher, to whom your directors have granted a lease of a portion of coal adjoining his Ladyshore Colliery. A calculation, on the basis laid down last year, of the amount that should be deducted for depreciation has been made. The sum thus arrived at is 10,827l. 2s. 11d., which your directors believe to be quite ample.

Your directors have to report that the guarantee given by the vendors in relation to the profits of the company has ceased, as the net profits of the company on the capital called-up and paid to this time have in the first two years amounted to a sum in excess of the 50 per cent. on such capital so called-up and paid. The securities held by the trustees will accordingly have to be returned to the guarantors. Your directors have further to report that the collieries, works, and machinery have been maintained during the year out of revenue in a proper state of efficiency, and at the present time everything connected therewith is in a position to maintain the present output of coal. The following directors retire by rotation, but are eligible for re-election—Mr. David Chadwick, M.P., Mr. John K. Cross, M.P., ANDREW KNOWLES, Chairman: Pendlebury, Feb. 4.

BILSON AND CRUMP MEADOW COLLIERIES COMPANY.

The second annual general meeting of proprietors was held yesterday at the City Terminus Hotel, Cannon-street.

Mr. TOM GOODE in the chair.

The SECRETARY read the notice convening the meeting and the report of the directors.

The CHAIRMAN said the directors, and himself in particular, met the proprietors on the present occasion under very painful circumstances, and circumstances which had placed the board at considerable disadvantage in preparing for this meeting. Most of those present were no doubt well aware that his late brother, the Chairman and managing director, had the entire control of the management of the collieries, and of the trade department in connection with this colliery, and the directors had only exercised a general supervision outside those departments over the business of the company. Although he had been a part owner of the collieries prior to their purchase by the company, he had never had anything to do with their management. Having a considerable practice as a solicitor in the town of Newnham he had never had time or opportunity to look to any extent after the colliery property, and at the time of his brother's death, which took place very suddenly indeed, he had been as ignorant of the affairs of the company as he meant the business of it since the company commenced operations at the beginning of the year 1874—as any one of the shareholders. Notwithstanding his own engagements, immediately after the late Chairman's death, he made as thorough an investigation into the business of the company as circumstances would allow, and had apprised the directors of the circumstance of his brother's death, and suggested the propriety of their meeting at the earliest possible date in order to put the management on a proper footing and in proper train. The board did so meet, and at their unanimous request he had agreed very reluctantly to accept a seat on the board for a time until better arrangements were made for a general supervision of their affairs. At the next meeting the directors had pressed upon him the desirability of his taking the chair, and, indeed, went so far as to ask him to occupy the position of his late brother. That, however, was quite out of the question, both from his private engagements and want of technical knowledge. In lieu of that proposition he had recommended that they should appoint the gentleman who had been for some time the colliery manager the general manager of the company, and a gentleman who had been in the office in Newnham for many years as trade manager, no one man being able to conduct both departments. This matter had been fully discussed, and ultimately the directors had made those appointments. It would be remembered that it had been urged upon the chairman that the annual meeting should be held earlier in the year, and the directors had succeeded to this extent that the shareholders had been called together on Feb. 25 instead of March 10. There were one or two points in the report to which he wished to call attention. The proprietors would no doubt have noticed that what were called the preliminary expenses had increased considerably in amount since last year, and that had been caused partly by the law bill of Messrs. Ashurst and Morris being paid, and by the payment of the stamp duty, and by the payment of the 500l. specially mentioned in the report. The directors believed that the stamp-duty should be paid by Mr. McLean under the contract between that gentleman and the company; but, on the other hand, Mr. McLean fairly and conscientiously believed that he ought not to pay it. Under those circumstances the board had thought it right to mention it particularly in the report, so that the shareholders might know how the preliminary expenses were made up, and there being fair and reasonable grounds on this question, that they should leave it (if they thought fit) for the directors to act as they considered best, after having taken legal advice thereon. Then there was 500l. paid as a compromise, he believed, in full and complete settlement of all claims made by the syndicate. After some negotiation this was the arrangement ultimately come to. In the next place, he would refer to the recommendation of the directors to pay 10 per cent. this year, notwithstanding the expression of opinion by the auditors that something further should be written off certain items. The reasons of the board for making that recommendation were, shortly, these:—During the year just closed they had, as most of the shareholders were aware, a strike among the men. It commenced in November, 1874, and continued through November, December, and January, and, he thought, into a part of February. Now, as would be easily understood, this strike had involved not only the loss of the profit the company would have realised during the time of its continuance, but also a large amount of unremunerative expenditure in the shape of dead work, the keep of their horses, repairing their engines, and other necessary work. All this had involved, as he had said, a great amount of expenditure. He believed from first to last at from 2000l. to 4000l. At the termination of the strike they had an interview with the men, and they had come with them to what the board considered a very satisfactory arrangement. They had agreed upon a sliding scale, which would work as follows:—The price of coal should be fixed at 12s. per ton, when at that price the men received a certain rate of wages; when the company advanced the price of coal 1s. per ton the men should have 5 per cent. advance on their wages, and when the company lowered the price 1s. per ton the men would be reduced 5 per cent. on their wages. This arrangement had been since acted upon, and the directors had every reason to believe that, as far as

they were concerned, the company had done with strikes for many years to come. Nor did they see, either, any cause to apprehend a worse year than the past one—at least they would get a month and a half's profits more than they did in 1875, and they would not have to incur the large amount of dead work with which they had been saddled in the 12 months just closed. They thought that those two circumstances alone would justify them in the recommendation made as to the 10 per cent. dividend. But there was another matter he should wish to refer to while speaking on the question of dividend. The auditors would recollect there was a guarantee of 10 per cent. Now, the question had arisen whether certain expenses were properly charged against the guarantors or not. Those expenses included what might be called improvements, and the question was, "What were improvements pure and simple, and what were mere repairs, which approached the nature of improvements?" The directors had not yet had time to settle this question. The day before they had had an interview (the solicitor of the company was present), and they had agreed upon this, that they would state a case jointly—the solicitor of the company on behalf of the guarantors, and the solicitor of the guarantors on behalf of the guarantors, and this case should be submitted to counsel, by whose decision the two parties had further agreed to abide. This question involved a sum of 400l. or 500l., and if the decision proved to be in favour of the company there would be so much more money to come from the guarantors, which sum would enable the board to comply with the suggestions made by the auditor. He (the Chairman) then concluded by moving the adoption of the report and accounts.—Mr. EWERT begged to second the proposition.

Some remarks from Mr. McLean, R. Evans, Sles, and others, followed. The Chairman rose to reply to the observations made. The directors he felt sure would have no objection to adding to future reports the names of the members of the board and the officers of the company. Upon the question of guarantee, he reminded the proprietors that an insurance had been effected by the company upon his brother's life for 10,000l. in order to secure the guarantee of 10 per cent. This insurance had been for five years; had Mr. A. Gould died after 2½ years had expired half of that sum would have at once been handed over to his heirs, the balance only remaining as security for the fulfilment of the guarantee. As it was, however, the whole of the sum (10,000l.) would, on being paid by the life officers, be lodged in the company's bank, to remain there as a sort of reserve fund to meet any deficiencies that might arise between the amount of net profits in any year and the amount required to pay 10 per cent. The whole of the 10,000l., or what portion remained, would, at the expiration of the five years, become the property of Mr. A. Gould's heirs.

The resolution for the adoption of the report was then put and carried unanimously, and the other business having been disposed of, the proceedings closed with a vote of thanks to the Chairman, directors, and managers of the company.

The following is a copy of the directors' report presented to the meeting:—Your directors have the pleasure to submit the duly audited balance-sheet, for the past year, and to report that notwithstanding such year was most exceptional in consequence of the depression existing in trade generally throughout the country, and particularly in the iron and coal departments, and the continuance of the strike referred to in their last report down to the end of January, involving a loss to the company of between 3000l. and 4000l., the total profits including 3147l. 12s. 2d. paid by the guarantors amount (after writing off 226l. 5s. 2d. for bad debts) to the sum of 11,968l. 12s. 2d., out of which 1785l. the interest on debentures, has been paid. The increase in the preliminary expenses arises chiefly from the payment of 500l. stamp duty, which it is believed can be recovered from Mr. Robert A. McLean, and 500l. paid to the syndicate in settlement of claims made by them on the company.

Believing, as your directors do, that there is no probability of another strike for some years to come, from the fact that the masters and the men have agreed upon a sliding scale for wages, and that the result of the workings for the present year is likely to be as favourable, if not more so, than that of the past year, they do not propose to write off anything in respect of improvements, or preliminary expenses, and they recommend that a dividend at the rate of 10½ per cent. per annum, free of income tax, be declared, and that the balance left after payment of the same be carried on to the current year's account.

Your directors deeply regret to have to report the death of the chairman and managing director of the company, the late Alfred Gould, Esq., which took place suddenly on Dec. 1.

The vacancy caused on the board by this event, was filled by the other directors at their next meeting by the election of the late Mr. Gould's brother, Mr. Tom Gould, who resides at Newnham, where the business of the company (except the actual working of the collieries) is chiefly carried on, and this gentleman has since, at the earnest request of his co-directors, for a time, at any rate, accepted the office of chairman.

At the same meeting your directors appointed Mr. Arnold Thomas, who has for some years past been colliery manager under the late Mr. Alfred Gould, general manager; and Mr. John Lawson Whitley who was through a long period in the office at Newnham trade manager, under the direction of Mr. Tom Gould as resident director.

KIRK MICHAEL MINING COMPANY.—The adjourned meeting was called for Monday, but a quorum could not be obtained. In the meantime Mr. Orlando Webb has resigned the chairmanship of the company, and Mr. J. S. Jackson has been appointed in his place. Mr. Kelly said that he had prevented a quorum, being present at the previous meeting; it was thought that no formal meeting should be held until the arrangements going on were completed, he believing a friendly agreement would thus be arrived at. Messrs. C. R. Tetley, C. Tetley, jun., Samuel Tetley, and H. G. Earnshaw were appointed directors in the room of Messrs. O. Webb, C. E. Webb, Chalmers, and Kelly. Mr. Corrie expressed his confidence in Capt. Woolcock's management and energy. Mr. Kelly expressed his opinion that there was lead in the mine, and that it only required money to get it out.

TYLLWYD.—A meeting of shareholders was held on Thursday, at which the special resolution was confirmed to issue 4000 12 per cent. preference shares of 12s. each. Mr. Walter Eddy is of opinion that the middle lode and south west branch will yield good ore at the 20 ft. level, and that the mine will improve in depth. The last reports from the mine seem to confirm this view. No doubt, therefore, the shareholders will readily respond to the call thus made.

NORTH ROMAN GRAVELS LEAD MINING COMPANY.—The statutory, or four-monthly, meeting of this company was held at the office, Cannon street, on Thursday, when the necessary formal business was transacted.

ARUBA ISLAND GOLD MINING COMPANY.—At a special meeting of shareholders, on Wednesday, a resolution was passed empowering the directors to borrow 50,000l., to be secured by bonds bearing interest at the rate of 10 per cent. per annum, and it was also agreed to issue a capital of the company by the issue of new shares of 10l. each to the amount of 500,000l.

[For remainder of Meetings see to-day's Supplement.]

MINING AND STOCK EXCHANGE NEWS OF THE WEEK.

Messrs. F. W. MANSELL and Co. (Sworn Stock and Share Brokers), Pinner's Hall, Old Broad-street, write to us as follows:—

WEST PATELEY BRIDGE LEAD MINES (Limited).—The famous mining district lying between Skipton and Pateley Bridge, although exceptionally rich, is in reality but little known. This arises from two causes, both in favour of it—1. Because the lead ores are not sold in the usual manner to smelters, but smelted in the mines and then sold to the company as pig-lead.—2. Because nearly all the mines are worked by the landlords, or by private parties in the neighbourhood. The antiquity of the district as a mining centre is as celebrated as its richness. A pig of lead was some years since found in one of the old mine workings bearing the name of Julius Caesar, with several other pieces also bearing his name. What may be called the Pateley Bridge district, the formation of which is mountain or carboniferous limestone, is traversed by 14 to 18 east and west lodes, besides cross-lodes; one of the champion lodes is between 4 and 5 fathoms wide on surface, and the hills are covered over with peat which is some 2 ft. or 3 ft. in thickness. Most of the productive lodes are composed of barytes, crystallised spar, carbonate of lead in abundance, and solid pieces of potash ore. It has been said that a few self-acting jiggers with slime-pits, &c., would return from these hillocks alone as large a fortune as could be desired. As showing the remarkable character of the district only one instance need be quoted. The adjoining mines were placed in the hands of the present landlord and proprietor's grandfather with 12,000l. debt; he began an adit level (or long cross-cut), discovered two new lodes, paid all the debt in six months, held the management for 50 years, and realised an enormous fortune. During this long period a royalty of 1-16th was paid, and then lead sold at an average not exceeding 10l. per ton; the royalty now is 1-14th, and lead is 22l. per ton. All the mines surrounding West Pateley Bridge have been very profitable for many years, and most have yielded great riches from the veins developed from surface down to the day level. West Pateley Bridge Mines have the incalculable and manifest advantage that except upon one or two veins, most imperfectly worked to only a few fathoms from surface, the whole range of productive veins, so rich in the adjoining Pateley Bridge property, may be considered as entirely untouched, standing high and dry for 56 fathoms deep, and laterally for a distance of ½ mile, ready for immediate and inexpensive extraction. The developments at Pateley Bridge Mines have proved the value of West Pateley Bridge; the richer and more profitable the former become increases in value the latter also, with this pre-eminent advantage, that the developed ground which has in Pateley Bridge returned ore of not less value than 1,000,000l. is yet standing in West Pateley Bridge ready to be extracted by the present company; this is a feature exceptionally in favour of West Pateley Bridge. Besides this, the configuration of the ground causes the numerous veins which traverse it to form into what is known in Cornwall as a "pan of lodes." There are also several well-known cross-veins forming innumerable intersections in connection with which large and rich deposits of mineral are almost invariably found.

WEST ASHETON (Lead).—At the extreme end of Carnarvonshire sloping towards St. Tudwell's Roads, in Carnarvon Bay, stand Tan-y-Bwlch, Asheton, West Asheton, and Port Nigel Mines. West Asheton comprises a run of virgin ground on the line of the Tan-y-Bwlch rich vein of 290 fms. up to the boundary of Tan-y-

Bwlch. The shaft sinking between Asheton and West Asheton is in rapid course of sinking, and indications are already sufficiently demonstrated to support the opinion that the shaft will soon reach the top of the heart of the rich deposit of lead, the continuation of which is opening out marvellously and yielding such enormous profits in Tan-y-Bwlch. In Tan-y-Bwlch a course of lead has been gone through, varying in value from 50l. to 150l. per fathom, and at a depth of 80 fathoms (the present deepest level) the lode is opening out richer than at any point nearer surface. It may be useful to state that the present private owner of Tan-y-Bwlch had expended upwards of 11,000l. before this extraordinary discovery was made.

ARGENTINE (Gold).—The staff, miners, machinery, stores, supplies, &c., are on their way to the mines; the staff, miners, and a large instalment of the machinery must now be at the mines, so that the 36 heads of stamps will soon be ready to commence work, as well as the reduction establishment. This stamping-power is equal to the reduction of 1100 tons per month, which should yield at least 2200 ozs. of gold. The Piqué gold realises 3l. 16s. per oz.; but, to be within the range of safety, let us reduce the monthly produce to 2000 ozs., and the average value to 3l. per oz.—that will be equal to 6000l. per month. Against this there is the computed cost of mining and of extraction of gold of 30s. per ton, or upon the 1100 tons 1650l. Here, again, to be safe, let us increase the cost 10s. per ton (550l.), or a total monthly cost of 2200l. After making these excessive alterations, decreasing so largely the gross value of the output, and equally increasing the cost, the net monthly profit amounts to 3500l. or 45,000l. per annum. The capital is 60,000l., in 12,000 shares. The commissioner says that as the mines are developed the monthly output will be considerably increased.

CONDES COMPANY OF CHILI (Silver).—The advice just to hand confirm upon every point the extraordinary statements previously telegraphed by the commissioner. Sufficient has been seen of the series of mines to convince the commissioner of their great value, and that the whole of the lodes will prove equally as rich as the Isolina; picked stones give very high assays; the galenas are found near the surface and the carbonate in depth; the assays prove that silver is increasing in depth. The extraction of the ore will depend on the number of men employed and other facilities. The country is comparatively new to the English public; therefore, it may be useful to mention that the smelting establishment is known as the Corral Quemado, and consists of two furnaces—one a silver-lead blast-furnace and one reverberatory, in which silver, copper, and silver-lead ore, are being smelted together, producing a regulus of copper 23 per cent., silver 86 marcs per cajon, equal to 237 ozs. per ton, and of lead 66 per cent. We have stated upon previous occasions that of the seven mines the Isolina is the principal one at present in operation; its perpendicular depth is about 40 yards, and about 800 yards long; the lode varies from 2 yards to ½ yard in width; its average may be considered as 1 yard. From the surface or commencement of the workings the lode, with few exceptions, gives an average of 50 to 60 ozs. of silver and 47 per cent. of lead per ton. There are eight headings in the mine in this quality ore, and in depth the quality is improving, as the average has risen 8 ozs. per ton on the 600 tons of ore extracted lately, which were smelted in the presence of the commissioner. At least 300 tons of this quality can be extracted from the Isolina Mine alone per month with 40 men; there is an adit commenced at a perpendicular depth of some 150 yards, which will cut the Isolina as well as some of the other lodes. This work is now being carried on, and it is a most important one, as it will facilitate and decrease the cost of extraction very considerably. There are in the Isolina 5000 tons of ore in sight, which can be extracted at any time. The slopes are untouched, and the ends of the levels are in good ore. The present position of Isolina will enable the executive to extract from the ends alone 300 tons of ore per month. According to the commissioner, this would net a profit of 10l. per ton, or 3000l. per month.

I. X. L. (Silver and Gold).—It seems to be forgotten that this property is on the same mineral belt as "the world's richest mine"—the Consolidated Virginia—which last year yielded gold and silver to the value of \$16,000,000, returning to the stockholders dividends of \$1,000,000 monthly. Mount Davison is visible from the I. X. L. works, and the quartz so exactly similar that several eminent mining engineers familiar with the Comstock Mines have pronounced the ore to be in every respect identical. The Consolidated Virginia claim comprises only 700 ft. of lode, whereas the I. X. L. has 4500 ft. At the Comstock they have to pay \$15 to \$20 per cord of wood, and \$50 per square inch of water, whereas at the I. X. L. both wood and water are in abundance, and in entire command of the property, the latter in connection with an excellent mill site. The richness of the veins has been fully demonstrated, and the recent success attending the adjoining Exchequer property, which was originally started upon the I. X. L., is giving renewed vitality to the shares, for which there has been a good demand throughout the week.

BLUE TENT CONSOLIDATED HYDRAULIC (Gold).—In this consolidated property we have a mass of known and reasonable dimensions, over the whole area of which we may walk, and whose depth is readily measured by ravines or workings, and whose average value in gold per cubic yard is determined not by the assay or melting of any limited and trifling quantity, but upon aggregates so large as to eliminate error and demonstrate a certainty. There are no hard and flinty ledges to be broken up, no refractory chemical combinations of precious metals to be reduced, but pure gold in impalpable dust or coarser grains intimately diffused in small, but wonderfully constant, quantities. No hand labour is here required to obtain the value, but a resort to most simple, inexpensive, and trustworthy natural agencies—running water, gravity, and the elective force of quicksilver. As before stated, the area of this company's property is 400 acres; the bed-rock underlying this vast superincumbent mass is of inky, gnarly slate, furrowed and pitted by long abrasions; the deposit possesses the usual characteristics of huge old quartz and granite boulders, rounded and polished, and often scooped into weird forms and shapes, petrifications, blue concretions, or conglomerate in the bottom, and oxidation nearer the top. The property, as its name would indicate, is made up by the consolidation of hitherto distinct possessions or interests, all of which have been worked to a greater or less extent; the working, however, being mostly of a superficial character, the Gopher being the only one in which bed-rock was denuded to any notable extent. These original claims are known as the Darst, Smith and Cooper, Gopher, Johnson, South Yuba, Blue Lead, Bed Rock, Enterprise, and Empire.

RICHMOND CONSOLIDATED (Silver).—We have been much abused, especially by anonymous correspondents, for last week publishing the unfavourable information which came to our hands through private channels. The object of the numerous anonymous communications received is sufficiently plain to pass without comment; it is not so easy, however, to understand why shareholders should complain because they are placed in possession of facts with which they were previously unacquainted. True, it is not a pleasant thing to be told that one has been building up false hopes; nor is the disappointment the less when the result affects pecuniary interest. Unpleasant is the task, but duty prompts. We still say—and we have the best evidence for the statement—that the mine in its present position and resources cannot long continue to yield a sufficient supply of ore to keep three furnaces in full operation; moreover, this is borne out by the reports of Captain Rickard, the manager. All estimates as to reserves both in quantity and quality have been most erroneous, and we contend the only man connected with the mine capable of forming any reliable opinion whatever upon this most vital point is Captain Rickard, who has in a sufficiently plain manner in many of his reports indicated, however indirectly, the incorrectness of the estimates previously made. Shareholders should fully weigh every sentence in these weekly reports, as thereby alone a correct opinion can be formed as to the actual position of the mine.

STOCK EXCHANGE GENERAL MARKETS.—It was thought in the early part of the week that as soon as Parliament had assented to the purchase of the Suez Canal shares the 4,000,000l. to be paid to Messrs. Rothschild would be handed over out of the "Public Deposits" now with the Bank of England. By the time the payment is authorised there is no doubt that the funds to the credit of the

80, 8, 82—Betts Cove Ore 100, 100, 100—Copper Ore 118, 118—Laque to Atarona
—Total, 1271 tons.

ing no change whatever. Sheffield remain at 78½ to 79½; the new capital to be issued will amount to one million and a half. Metropolitan show a rise of ¼-100½ to 100½. In spite of last night's miscarriage in the House of Parliament, Four o'clock. A further important recovery has taken place in Caledonian, which are now 135½ to 136½, and firm. Egyptian are exactly 1 per cent. higher, on better prices from Paris. Metropolitan firm, at 100½ to 100½. Spanish, 19½ to 19½. Peru, 25½ to 26. Mines are rather dull. Parys Mountain have fallen to 16s. 3d., 18s. 9d., San Pedro, 3½ to 3½. Richmond, 6½ to 6½. Plymington, 12s. 6d. to 3½. East Van, 2½ to 2½. FERNIXAND R. KIRK.
5, Barchin-lane, E.C.

* With this week's Journal a SUPPLEMENTAL SHEET is given, which contains—Original Correspondence: Dynamite, and the Railway Companies; the Rotary Blower (T. Rickard); Mining in the East—No. 1; Swedish Iron Ore; Richmond Mining Company; Separation of Minerals (Thomas Ellery); Mining Education; Gold in Wales—No. XIX. (T. A. Readwin); Mining Shares—Reliable Daily Quotations; Old Treburget Mine; Parys Mountain; South Condurow—the Exemplar of Tin Mines; Duchy Great Consols; East Van Mining Company (F. P. Wilson, Sec.); Bog Mine; Pennerley Mine; Wheal Penryn (J. A. Roddy); Wheal Penryn, and its late Management; Wheal Penryn (T. James); Wheal Wrey, Ludoc, and North Trelawny; Pennerley Mine (Limited); The Iron Industries of South Wales—Hangman Burrow—the Fox Hunt—Patent Matters.—Meetings of Phosphor Bronze, Diamond Rock-Boring, North Prince Patrick, Ambrose Lake, New Cwm Elan, Pennant, South Caradon, West Maria and Fortescue, West Wheal Tolgus, Van Railway, and South Crofty Companies, &c.

The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—LONDON, FEB. 25, 1876.

| IRON. | £ s. d. | £ s. d. | £ s. d. | TIN. | £ s. d. | £ s. d. |
|---------------------------|---------|---------|---------|---|---------|---------|
| Pig, GMB, f.o.b., Clyde. | 2 | 19 | 3 | English, ingot, f.o.b. | 79 | 10 |
| Scotch, all No. 1. | 3 | 2 | 6 | bars | 80 | 10 |
| Bars, Welsh, f.o.b. Wales | 7 | 6 | 6 | refined | 82 | 0 |
| in London. | 7 | 2 | 6 | Australian | 75 | 0 |
| Stafford. | 8 | 15 | 0 | Banco | 80 | 0 |
| in Tyne or Tees | — | 0 | 0 | Straits | 75 | 0 |
| Swedish, London | 15 | 10 | 0 | QUICKSILVER. | | |
| Rails, Welsh, at works. | 5 | 15 | 0 | Flasks of 75 lbs. ware. | 10 | 0 |
| Railway chairs | — | — | — | COPPER. | | |
| spikes | — | 0 | 12 | Tough cake and ingot. | 84 | 0 |
| Sheets, Staff., in London | 11 | 0 | 12 | Best selected | 85 | 0 |
| Plates, Staff., in London | 15 | 0 | 12 | Sheets and sheathing. | 89 | 0 |
| Hoops, Staff. | 9 | 15 | 0 | Flat Bottoms | 92 | 0 |
| Nail rods, Staff. in Lon. | 5 | 0 | 9 | Wallaroo | 87 | 10 |
| STEEL. | | | | Burra, or P.C.C. | 87 | 10 |
| English, spring | 18 | 0 | 25 | Other brands | 85 | 0 |
| cast | 35 | 0 | 50 | Chili bars, g.o.b. | 78 | 0 |
| Swedish, keg | 18 | 10 | 0 | BRASS. | | |
| fag. ham. | 21 | 0 | 0 | Wire | 9½ d. | — |
| LEAD. | | | | Tubes | 9 | 12d. |
| English, pig, common | 22 | 0 | 0 | Yellow metal sheathing | 7½ | 8 |
| " L.B. | 22 | 5 | 0 | Nails composition | 9½ | 10½ |
| " W.B. | 24 | 0 | 0 | TIN-PLATES.* | | |
| sheet and bar. | 23 | 5 | 0 | Charcoal, 1st quality | 1 | 9 |
| pipe | 24 | 10 | 0 | 2nd quality | 1 | 5 |
| red | 24 | 0 | 25 | Coke, 1st quality | 1 | 3 |
| white | 28 | 0 | 29 | 2nd quality | 1 | 1 |
| patent shot | 28 | 10 | 0 | Black Taggers, 450 of | 1 | 0 |
| Spanish | 21 | 10 | 0 | at Liverpool | 1 | 0 |
| SPELTER. | | | | Black Taggers, 450 of | 1 | 0 |
| Silesian or Rheinland | 25 | 0 | 0 | 14 × 10 | 30 | 0 |
| in English port | 26 | 0 | 0 | * At the works, 1s. to 1s. 6d. per box less for ordinary; 10s. per ton less for | | |
| English, Swansea | 26 | 0 | 0 | Canada; 1s. 6d. per box more than 100 quoted above, and add 6s. for each X. | | |
| Sheet zinc | 31 | 0 | 0 | Terne-plates 2s. per box below tin-plates of similar brands. | | |

* At the works, 1s. to 1s. 6d. per box less for ordinary; 10s. per ton less for Canada; 1X 6s. per box more than 10 quoted above, and add 6s. for each X. Terne-plates 2s. per box below tin-plates of similar brands.

REMARKS.—Our markets are without animation—in fact, they may be said to be perfectly lifeless—and business altogether is as bad as it can well be, the state of affairs amounting almost to total stagnation. The prospect of any change for the better is distant, and although it would appear quite impossible that the demand should be more limited than at present, it is probable that any increase will be very gradual. Consumers, shippers, and dealers contract their engagements to the utmost; and as regards speculation, if speculators operate at all, it is with a view to a fall. Prices are all lower again, and the tendency is still downward, and there appears nothing to arrest this tendency, and it is only surprising that it has not been more decided before. The reason, no doubt, is the general reluctance of holders to acknowledge the altered circumstances of trade, which undoubtedly require the acceptance of lower rates. The community is known to be unquestionably poorer, and it necessarily follows that retrenchment must be the order of the day for some considerable time. The prices of metals, therefore, as well as other commodities, must become cheaper, otherwise the consumption cannot increase. Our markets are over-stocked, supplies not having been diminished in proportion to the falling off in the demand. Such is the present unsatisfactory state of things, but while it lasts it is better to face than to attempt to ignore it. If sellers could only be prevailed upon to submit to needful reductions the consequent rebound would naturally take place at some earlier period. The fear, however, is entertained by some that owing to the exhaustive character of the existing depression we may possibly see the day of disastrous failures. There is a limit to the power of small capitalists to hold out in times when no profits are foreshadowed, and the best that can be looked for is the avoidance of direct loss. Should such gloomy anticipations be only in small measure realised, the consequences even then would prove disastrous, and panic prices might ensue. Extreme caution should, therefore, now be exercised, and credit limited to a minimum. It would seem that that which alone will suffice to bring about general prosperity and restore the equilibrium which has been lost in a continuance of peace—the establishment of satisfactory relations between employers and employed—the general currency of low prices—and as the seasons advance ultimately a good harvest throughout the corn producing countries of the world.

COPPER.—The market has continued to drag throughout the week, and prices still have a downward tendency. Chili bars, which closed last week at 79½, were quoted in the early part of this week at 79½ for g.o.b. On Tuesday the Swansea Ticketing took place, and 1167 tons of ore were disposed of, at an average rate of 16s. 0½d., and Cape ore at 16s. 1½d. per unit. The standard reduced 1½. Business was reported in Chili bars on Thursday and to-day at 79½ g.o.b. usual cash. The demand for English is very limited. Tough is quoted at 85½; select, 86½; 4 by 4 sheets, 91½; strong sheets, 91½ to 92½; and yellow metal, 7½d. Until prices are still further reduced it is not easy to see where any improvement in business is to be looked for. The support which the Indian market has afforded has been almost entirely withdrawn, owing to the unfavourable rate of exchange. This, however, is slightly improved, but not to such an extent as to encourage buyers to give out their orders. A public sale of 200 tons of Wallaroo is announced for March 25 at the Baltic Sale-Rooms, and it is intended in future to have quarterly sales of this description of copper. Should this mode of selling foreign copper prove a success there is little doubt but that it will very soon be generally adopted by other sellers; at present, however, it is, of course, questionable whether public sales will prove more advantageous than private ones.

IRON.—A very important series of meetings has taken place this week at the Westminster Palace Hotel, during which a newly-formed body, entitled the British Iron Trade Association, took form, and entered upon some important functions. It is premised that this institution is not a rival of the "Iron and Steel Institute," which has filled, and does fill, a valuable place in the compilation of scientific information for the use of the trade; but the British Iron Trade Association will occupy other ground, and endeavour to supply statistics of more immediate and practical interest to the iron community. The publication of such reliable information may prove of very essential service in welding together the interest of the various iron centres. One of the evils from which the trade of this country has suffered has arisen from the reticence which each iron district has maintained with regard to its *modus operandi*. Notes which might have been compared with mutual advantage have been scrupulously withheld, it would seem, for but one reason—lest others should reap a benefit which was conjectured might have been retained for individual profit, forgetting that in a staple trade like that of iron, which is second only to cotton in importance, that what conduces to the benefit of one must of necessity be for the benefit of all. The result of the sharp competition and rivalry which has existed, for instance, between South Wales and the North of England and between North Staffordshire, and other Midland counties, has tended to this.

The British Iron Trade Association will collate all information which will be of use to the body corporate, and it will be through their instrumentality widely diffused throughout the trade. It will watch over the "interests of the iron and steel trades in the arrangement of commercial treaties with foreign countries, and ascertain that the provisions of existing treaties are faithfully carried out." It will report as "accurately and quickly as possible what is doing, or has recently been done, in production or in sale, the production of each kind of iron in each district, the demand for it, whether it goes, how it travels, what it fetches, and, if possible, what the cost of production. And so of steel, at what rate rails of steel are taking the place of rails of iron, whether steel is displacing iron for other and what purposes, and to what extent, and whether iron rails of a high class are superseding those of a lower class." These are some of the objects which this association has in view, and if it be found practicable to give them effect, and the information afforded be reliable, without doubt much good would be accomplished. The concluding words of the inaugural address are such as to cast a ray of hope upon the present dark surroundings of the trade. "Our association enters upon its existence in a time of general depression, and one in which we have to grapple with new and somewhat formidable dangers, but the qualities which have gained will maintain success, and they know but little of England who suppose that the energy and boldness of our capitalists, or the skill and industry of our working classes, have seriously fallen off, or that our internal disputes will not be conducted, on the whole, with that practical sense and moderation to which we, as a nation, lay claim. Even now, dark as is the hour and deep the winter of our discontent, there are not wanting symptoms of a revival, nor, perhaps, is it too much to expect a hope that we may soon be able to hail with the poet as the sign of the returning spring that 'Vulcanus ardens urit officinas,' and may see the silent furnaces once again in blast."

IRON.—The attention of those interested in the iron trade in the North of England has been concentrated upon the settlement of the

rate of wages. The awards, so far as regards the miners in the Cleveland and Durham districts, have been published. The Cleveland men are to work upon the rate of wages ruling previous to the extraordinary impulse experienced in the iron trade in the year 1871 but the Durham miners are to receive wages considerably in advance of these rates. This arrangement is not likely to prove acceptable to those who do not share in the benefit, and it remains to be seen whether the reductions are such as to bring about a more active condition of trade. In addition to the reductions referred to the wages of the iron workers have lately undergone revision, and those of the blast-furnacemen it is proposed also to remodel; but it is questionable whether, when all this has been accomplished, the reduction in the price of finished iron will be such as to induce buyers to come forward and give out orders on a scale sufficiently large to afford an abundance of employment in the iron districts. Relief will doubtless be experienced by the ironmasters who, with a view of affording employment to their men and of keeping their connection together, have been working for a considerable period at a loss; and this is an important point gained, for it is evident that a period must come when such a course can no longer be maintained, and the compulsory closing of large works would prove a very serious calamity, more particularly at the commencement of what ought to prove the busy season of the year. The enquiry at the moment for pig-iron as well as for manufactured is very dull. The falling off in the shipments of the former, both coastwise and abroad, is considerable, but so soon as the northern ports are open it is hoped that a revival in trade may follow. There is no change of importance to report in the position of the finished iron trade. Pig-iron is quoted—No. 1, 54s. 6d.; No. 2, 53s.; No. 4, 49s. 6d.

In South Wales there is no improvement to report. It is impossible for ironmasters to accept orders at such low figures as those which intending buyers propose as the basis upon which they are prepared to do business, and the state of trade generally is such that purchasers cannot improve upon their offers. The wages question has been under the consideration of the conciliation board, and they have awarded a scale of reductions which, beginning with 7 per cent., rises to 33 per cent. upon the rates lately current. So great a change could hardly have been carried out without giving rise to some complications, but these seem to have been overcome, and the men are now prepared to submit to the terms awarded. The course of the Scotch pig-iron market has been downward since our last, and business has been done down to 59s. To-day the market is fractionally lower, business being reported at 58s. 9d. cash, 59s. 0d. month.

SHIPMENTS.

| | | |
|----------------------------|------|-------|
| Week ending Feb. 20, 1876. | Tons | 9,133 |
| Week ending Feb. 19, 1876. | Tons | 4,637 |

DECREASE.

| | |
|--------------------------|--------|
| Total decrease for 1876. | 4,496 |
| Total decrease for 1875. | 16,268 |

LEAD.—The market has been dull, and quotations have been a shade lower than last week. Good soft English pig is quoted 21½ to 22½; and soft Spanish, without silver, 21½ to 10s.

SPELTER.—The demand is limited; 25½ to 25½ 5s. is quoted for ordinary Silesian.

QUICKSILVER.—Very little was done in this metal while the quotation stood at 10½ 10s.; but on Wednesday the price was reduced to 10½, at which the metal was bought.

TIN.—Throughout the week the market has been falling, and Straits is 2½ lower since our last; quotations to-day for Straits being 75½. English has also participated in the decline, and ingots are now obtainable at 79½ 10s. It is expected that the stock of tin at the end of the month will show a considerable increase still further against the market.

THE IRON TRADE.—(Griffiths's Weekly Report).—Friday Evening. We have to report a fall in the market of g.m.b. warrants this week of 1s. 10½d. per ton. The market closed last week at 80s. 7½d.; the closing price this afternoon was 58s. 6d. cash, 59s. 0d. month. We quote makers' No. 1 iron—Guthrie, 68s. 6d.; Coltness, 71s. 6d.; Llandovery, 70s. 6d.; Summerlee, 68s. 6d.; Monkland, 69s. 6d.; Glasgow, 68s. 6d.; Eglinton, 59s. 6d.; Shotts, 70s. 6d.; Leith, 62s. 6d.; f.o.b. Boness. No change to report in the iron trade this week. The raw material is still giving way at Glasgow and Middlesbrough. Pig iron is reduced more than 1s. per ton at both centres since we last wrote.

The Elbow Vale Company have taken an order this week for 3500 tons of rails at a little under 7½ per ton. The iron trade in Staffordshire is certainly quieter, with a few orders being done, but the demand for the iron trade is not so good as it was some time back. The chief portion thereof, however, continues depressed, and the same may be said of the tin-plate trade. Mr. Stephen Thompson has joined the board of directors of the Midland Bank at Wolverhampton. A meeting of influential ironmasters took place in London this week. We can scarcely understand the object of the meeting.

Messrs. VIVIAN, YOUNGER, and BOND—COPPER: The market is very quiet, with sellers over at these prices. In line foreign small business at 85½ for Wallaroo and Burra Cake, while our Australian ore is in great demand. The demand for sale, owing to the relative cheapness of English, tough cake, and best selected having sold down to 85½, and 86½, respectively. Manufactured in limited demand, and prices are irregular. TIN: The market has dropped continuously under the heavy arrivals of foreign. Straits has sold at 75s. down to 76s. 6d., and Australian 77s. down to 76s., with a moderate business daily. At the close, however, the market is flat, and to effect sales some further concession would have to be made. The English smelters have reduced their quotations to 80s. for common, with the reduction of the standards in Cornwall of 2s.

Messrs. JAMES and SHAKESPEARE—With one solitary exception (antimony) we note a decline in the market values of all metals quoted on our list. This reduction has apparently been brought about by the feeling of depression which prevails throughout commercial circles, rather than by any actual and sudden diminution in the demand. We call the attention of the trade to the announcement given below, respecting the new method about to be adopted for the disposal of the leading brand of Australian copper, and would remark that the course now to be pursued is one that has been long contemplated, and does not arise from any special circumstances of the moment. Merchants trading with the colony have been accustomed to offer the bulk of their imports of other goods by auction in a similar manner, and it is thought desirable by the owners and the consignees of Wallaroo copper that this article should be no exception to the rule. Should the experiment prove successful, it is intended that all future imports of this brand shall be disposed of by auction at intervals of three months, instead of selling by private contract, as has hitherto been the case. COPPER: At the Swansea Ticketing on Tuesday, 1167 tons of ore, averaging 24 per cent. produce, fetched an average price of 16s. 0½d. per unit; no other transaction besides this has occurred in furnace material. Bars are a trifle easier, but there is no positive decline in prices. A fair trade has been done throughout the week; the chief portion thereof, however, consisted of demands for certain particular brands, and holders who could not meet these requirements have found a difficulty in disposing of their goods. Australian kinds are slack, and quotations somewhat lower. Values of Wallaroo are nominal, as it is now only to be bought from second hands, we having received instructions to dispose of the original imports by public auction; and in accordance with this arrangement we shall offer for sale, on Tuesday, March 27 next, about 2000 tons in cakes and ingots, chiefly the former, which quantity comprises almost the entirety of the stock of brand and pf. standard in the consignees' hands. The price is still under discussion, but decision will be shortly arrived at, and on the 7th prox. we shall be prepared to give copies of the terms, on application at our offices, either in London or Liverpool. Smelters have appeared rather anxious sellers of English during the week; and have booked orders, both for raw and manufactured, on somewhat lower terms. TIN: English has declined about 1s. per cwt. Foreign sorts are also easier; and the trade seems to be thoroughly disorganised, owing to the persistent speculative sales for forward delivery, at and below cash values. LEAD: dull; and quotations, both for English and Spanish pig, have fallen about 5s. per ton.

Messrs. FRENCH and SMITH.—The depression which exists in markets generally is severely felt in this market. With scarcely an exception metals are dull, and it is impossible to make a sale of any importance without submitting to a reduction in price.

Messrs. HENRY ROGERS, SONS, and CO.—COPPER: This metal continues to fall, the orders from consumers being insufficient to maintain prices lately ruling. There are rumours of considerable quantities of American copper having been again sold for the Continent, and a large quantity of Russian copper has been offered here. The Eastern Exchanges being still so adverse the manufactured demand has materially decreased, and English tough and selected copper find but few buyers. TIN: The very heavy arrivals in the current month have driven down prices considerably: we now quote Straits tin 75½, and Australian 78s. 10s., with a poor demand. LEAD: dull; and quotations, both for English and Spanish pig, have fallen about 5s. per ton. LEAD: Spanish is a trifle easier—ordinary brands of English are 22½, special mark 22½ 5s.

MR. MURKANT—TIN: The market for foreign appears to be in a bad way, and sales for forward delivery have been freely made at fully 1½ below the "spot" price. It would seem that a sort of panic exists, owing to the continued arrivals of heavy parcels from Australia. The committee report moderate sales at 75s. 6d. to 77s. for cash and shipment. COPPER: Chili is lower and appears likely to recede further. Large quantities of Australian, too, have recently come into this port. The quotations for outside brands are quite nominal, the market being very weak. At the Swansea Ticketing on Tuesday last, about 2500 tons of fine, average produce 24 per cent. brought an average price of 16s. 0½d. per unit. The committee report a small business in Chili, at 78s. 10s. to 79s. for cash.

Messrs. PIXLEY and ABEL.—GOLD: The export demand on private account has been slight, but purchases have been made for the German Government, including about 233,000l. in bars, ex P. and O. steamer, delivered on the 22nd inst., 52,000l. ex Lutterworth, from N. W. Zealand, and a same amount received from the United States: 33,000l. in sovereigns from the Continent and Australia has been sent into the Bank of England, and 60,000l. have been withdrawn. The Minho takes 40,000 sovereigns to the Brazil. SILVER: The day after our last carried a limited amount of silver was placed at 54½d. per oz. standard, but the market has since been very depressed, and quotations are merely nominal. The Acocagua from the Pacific brought 45,000l., and some small amounts have arrived from the United States. The P. and O. steamer Cathay, leaving Southampton this day, takes 80,000l. for Bombay. The Severn, from the West Indies, brought 55,000l. in gold and silver. MEXICAN DOLLARS: The dollars per French steamer Ville de Washington realised 52½d. per oz., being the price recently current. The shipments yesterday per P. and O. steamer Cathay were 19,000l. to Penang, 76,000l. to Singapore, and 7700l. to Shanghai. Exchanges on India for banks drafts at 60 days sight is 1s. 8½d. per rupee.

EXPORTS OF COAL.—By the Monthly Circular of Messrs. Higginson, of Liverpool, we learn that the quantity of coal exported in Jan. was 960,021 tons, against 655,395 tons in the corresponding month of 1874, showing an increase of 274,716 tons. The particulars are—From the Northern Ports, 382,039 tons; Yorkshire, 52,113 tons; London, 3254 tons; Liverpool, 44,023 tons; Severn Ports, 375,069 tons; and Scotch Ports, 100,523 tons. The increase was—Northern

Ports, 48,405 tons; Severn Ports, 209,771 tons; Scotch Ports, 20,555 tons. The decrease—Yorkshire, 1088 tons; London, 1346 tons; Liverpool, 1881 tons.

There has been another heavy fortnightly settlement in the MINING SHARE MARKET this week, and business has been somewhat interrupted in consequence, and prices fluctuating.

The smelters have again reduced the standards on tin ores 2s. per cwt. This comes upon us rather as a surprise, when some mines were stocking their produce and looking for an advance in price.

It is worth seriously considering now how far the operations, and consequently the expenses, of all tin mines should be curtailed for a time, and others abandoned altogether. It is generally supposed that to raise and bring a ton of tin to market from mines in general costs about 50l. When tin rose to 90l. and 100l. per ton a great number of tin mines were started, in the expectation of making good profits; but now that the price has dropped to 40l. per ton, it must be evident that they can only be carried on at a great loss. By curtailing the operations of all, by carrying on the good sets inexpensively for a time, and by abandoning those that have no particular or immediate prospects, the production of tin would be diminished, and the prospect of a better price be assured at a future time.

Lead mines continue in demand; and two copper mines during the week have paid dividends—South Caradon and West Tolgus. The shares mostly dealt in have been East Van, Roman Gravel, North Laxey, Rookhope, Van, Tankerville, West Tankerville, Pennerley, Parys Mountain, Wheal Crebor, Pateley Bridge, West Chiverton, Marke Valley, Ladywell, Plymington, and a few others.

East Van has further advanced to 2½ 22. Roman Gravel, 14 to 15, ex div. of 8s. 6d. per share; the 95, south of caunter, is improving, and the 80 continues to go forward in a very rich course of ore. Tankerville, 12 to 13, ex div. of 5s. per share; South Roman Gravel, 30s. to 35s.; West Tankerville, 2 to 2½ 17 10s. paid up; Great Laxey, 18 to 19; North Laxey, 1½ to 1½; Rookhope Valley, 25s. to 30s.; Ladywell, 2½ to 2½; Pennerley, 1½ to 1½; Plymington, ½ to ½; Van has advanced to 40, 41; West Craven Moor, 11 to 11½; Van Consols, 2½ to 2½; Glyn, 2 to 2½; Pateley Bridge, 6 to 6½; West Pateley Bridge, 5½ to 5½; St. Patrick, 1½ to 1½; Old Treburget, ½ to ½; West Chiverton, 17 to 18.

Parys Mountain, 19s. to 21s.; the statement of the accounts, together with the directors' and agent's reports, have been forwarded to the shareholders preparatory to the general meeting on March 3. The accounts showed a balance of assets over liabilities of 3236l. 12s. 7d. The copper ore sold in the six months ending Dec. 31 amounted to 2891l. 6s. 1d. The sales of ore, ochre, and precipitate together 3834l. 15s. 6d., against a cost of 3767l. 2s. 5d., leaving a profit of 67l. 13s. 1d. The various points in operation on the copper lode show an aggregate value of 35½ tons of copper ore and 14 tons of sulphur per fathom. One end has improved to 4 tons of copper ore per fathom. With regard to the 90 cross-cut, towards the Moss lode, the agents state it is still before them, and several branches containing ore have been passed through. Devon Great Consols, 4½ to 5; the valuation of the different points in operation for copper ore, valued in the aggregate at 49 tons, is 208l. per fathom. East Caradon, 2½ to 2½; Marke Valley, 2½ to 2½. Pennant, 5 to 5½; particulars of the meeting will be found in another column. Gunnislake (Clitters), 3 to 3½; Cathedral, 1½ to 1½.

South Caradon, 14½ to 15; at the meeting, held in Cornwall, a dividend of 2½ per share was declared. The accounts showed a profit of 1139l. on the three months, and a credit balance of 3342l. The copper ore sold realised 9928l., the highest price being 132 1½s. 6d. West Tolgus, 66 to 68; at the meeting the accounts showed a profit on the two months of 721l., and a credit balance of 1813l. A dividend of 25s. per share was declared. The ores already sold, and to be credited at the next meeting, realised 2543l., and another parcel of 288 tons had also been sampled. The costs were charged up to Jan. 7. South Crofty, 16 to 18. The accounts showed a loss of 230l. on the quarter, and a call of 10s. per share was made. Wheal Union Wood, 1½ to 1½; a call of 2s. 6d. per share was made here. The tin sold realised 1756l.; copper, 66l.; debit balance, 1388l. Carn Bra, 36 to 38; Dolcoath, 37 to 39; Penstruthal, ½ to ½; Providence Mines, 2 to 2½.

Wheal Crebor 2 to 2½; the lode in the 48 east is worth 5 tons of mundie and a little good quality copper ore per fathom. No. 1 stop has improved to 40l. per fathom; No. 2 stop 30l. per fathom. South Carn Bra, 25s. to 30s.; South Condurow, 4½ to 5; Tincroft, 17 to 19. Grogwinion, 5 to 6; 70 tons of lead ore have been sold at 15½ 6s. 6d. per ton, which we understand leaves a profit of 450l. for the month. Another 70 tons will be sampled on the 23rd inst. West Seton, 35 to 37; Wheal Agar, 2½ to 2½; Wheal Grenville, 1½ to 2. New Rosewarne, ½ to 1; the mine has sampled 30 tons of copper ores; the largest parcel (22 tons) averages 9½ per cent; the small parcel 6½ per cent. In the 67 end the lode has improved to 14½ per fathom; the stop above 7½. Relistian Consols, ½ to ½.

Argentine, 7 to 7½; Condes of Chili, 6½ to 7. St. John del Rey, 370 to 390; the profit for the month of January is 13,000l. Conales, ½ to ½; the advices here show a loss of 221½ 7s. on the month. The gold produced realised 503l. The new manager says that the pneumatic stamps would be ready to work by end of the month, and which, he thinks, may considerably improve the prospects of the company, and he believes they have some very valuable mines. Javal, ½ to ½; the profit for the month is 25½ 1s. 2d.; gold returned valued at 850l. Eberhardt and Aurora, 8½ to 8½; Flagstaff, 1½ to 2. Panulillo, 2 to 2½; Sweetland Creek, 2½ to 2½; Santa Barbara, 1½ to 1½.

The Market for Mine Shares on the Stock Exchange during the week has been active, the principal demand again being for home lead mines, in which a large amount of business continues to be transacted. The fortnightly settlement, commenced on Wednesday and completed yesterday (Friday), necessarily interfered with the progress of new business, but the market generally presents a healthy aspect, with hardening quotations.

Van, East Van, Roman Gravel, Pateley Bridge, Tankerville, Rookhope, Great Laxey, North Laxey, West Pateley Bridge, West Tankerville, and a few others have been the mines chiefly dealt in.

Van have improved to 40½ 41½; the lode in the 70m. level, 75m. west of the shaft, is still in the same rich course of ore; by an independent valuation, the lode is worth 200l. per fathom. The 90 is being rapidly driven to come under the same deposit, while for a long distance the lode has been worth 100l. per fathom. The cross-cut at the 105 is now nearing the lode, and stones of lead are being met with in the drive. The mine never looked so well as now. East Van, 2½ to 2½; the lode in the B cross-cut is being driven in the same favourable stratification for the production of mineral, and the agent is of opinion the lode will be cut in a short distance further driving. Pateley Bridge, 6 to 6½; the lode in Gifford level has improved, now worth 12½ per fathom. The indications for speedily cutting the Lumb vein are good. No alteration in other parts of the mine. West Pateley Bridge, 5½ to 5½; vigorous operations are in progress, and the manager expects he will commence to make regular returns of lead almost immediately. The three rich veins of the district—the Lumb, Cleaver, and Rake—are standing whole for the length of the mine (three-quarters of a mile). Grogwinion, 5½ to 6½; the manager's report states that the January sale of 70 tons left a profit of 450l. (see report in another column). A further parcel of 70 tons was sold on Wednesday at 15½ 9s. showing another increase in price. The mine never looked better at all points, and the new levels between the intermediate and the deep adit are opening out well, and yielding an increased quantity of ore. Van Consols, 2½ to 2½; the works are being carried on with vigour, and the drawing shaft is being completed; 25 tons of ore were sampled yesterday, Great West Van, 12s. 6d. to 17s. 6d.; the lode in the 46 west is valued at 18l. per fathom; the coming season will enable the operations to be carried on with much more vigour. The ore ground that has been closed for some time past will be reworked next month, when returns of lead will be made. Wye Valley, 6½ to 7½; the manager reports, under yesterday's date, that the adit level driving east has greatly improved, and is yielding a good quantity of ore. The 22 is making good progress towards the ore ground, and the prospects at all points are very good. A parcel of lead will be sold on Monday. West Wye Valley, 4 to 4½; the deep level

going forward towards the Wye Valley boundary, in a most promising lode, and the other levels are all making steady progress. Brooke's shaft, continues to look well, and important discoveries are expected in this portion of the mine.

Glyn, 2 to 2½; the most sanguine expectations are entertained as to the future of this mine, its excellent situation being only about 600 yards west of the Great Van. On the lode the presence of gas and a stream of water is looked upon as a sure sign of a productive lode being at hand. Llanidloes, 3 to 3½; in the bottom level an important improvement has occurred, and a productive mine is being worked. The manager says all other parts are looking very well. Pennerley, 1½ to 1¾; the lode in the 120 east is increasing in width and improving in appearance. At Potter's Pit the sinking of the shaft is making fair progress towards the 90 fm. level. The winze sinking below the 75 fm. level is in a strong and fine-looking lode, worth 500, per fathom. No other change reported. Melindur Valley, 2 to 3; the 26 is yielding good ore. The cross-cut from the 38 will reach the lode in about a fortnight. Rookhope Valley, 1½ to 1¾; North Laxey, 1½ to 1¾. South Cwmystwith, 2 to 2½; in the upper level an improvement has taken place on No. 2 lode. West Goginan, 2 to 2½; the stopes in the adit and the 12 have much improved, as also has the shaft and deeper level.

Foreign Quartz Mines have been without special feature. St. John del Rey stock has changed hands at 275 to 285; the produce for the first division of February, nine days, was 14,250 oits. (5522½); 90 oits. per ton, against an average of 87 oits. per ton during January; profit for January, 13,000. Argentine, 7 to 7½; the statutory meeting has been summoned for March 9; a further shipment of machinery will be made by the steamer sailing for Rosario, on March 10, completing the machinery necessary for draining, working, and sinking the Pique Mine, as well as the materials to place the 36 heads of stamps in thorough repair, equal to the reduction of 1500 tons of mineral per month, which at the low standard of only 1 oz. per ton will yield a profit equivalent to 3000. per month. The staff, with machinery to put 12 heads of stamps in working order, had arrived at Rosario, and is now due at the mines. Mr. Coward had returned from Chili, and advices are expected from him in the course of next week. Rossa Grande have sprung into demand, and close firm, buyers, at ½ to ¾; Mr. Gordon (the manager of the St. John del Rey) has stated that in the event of the necessary capital being raised the water-power and increased stamping appliances therewith provided would be sufficient to treat easily 100 tons of mineral, and considers the Rossa Grande Mines alone capable of producing that quantity of mineral, which might safely be calculated to give an average produce of 5 oits. per ton, while the cost of raising, treating, and general management can be efficiently performed at a cost per ton leaving a fair amount available for dividend. All who know Mr. Gordon are aware that that gentleman would express an opinion only after mature consideration, and as regards the reliance which may be placed on his judgment, it is only necessary to point to the undoubted ability which he has for so many years displayed in the management of the St. John del Rey Company's property, which entitles him to rank among the highest authority on mining matters in Brazil. Mr. Gordon not only expresses a favourable opinion as to the capabilities of the mine under judicious management, but promises his valuable assistance in directing the necessary works, visiting the property from time to time as circumstances may require it. It has been decided to authorise the issue of 15,000, in mortgage debentures bearing interest at the rate of 10 per cent. per annum, being a first charge on the property.

Silver Mines have been chiefly represented by Condes of Chili, in which large transactions have taken place at 6½ to 7; the company received possession of the mines about the beginning of the present month, and the February ores will be shipped early in March; the commissioner's report states that the adit will intersect six lodes at a depth of 70 fms. under the present workings, and that an adit can be brought in at a depth of 150 fms., intersecting other distant lodes. The commissioner asserts that the reason the other mines have not been actively worked is because the Isolina alone has produced more ore than the furnaces could smelt, and that from the ore in some of them and on the outcrops they are equally worthy of being worked separately were it not that the adit would enable them to do so with greater facility in depth. Richmond Consolidated 6 to 6½; shareholders' letters to hand would seem to point to the necessity of it being stated that the present practical manager, Mr. R. Rickard, during a long connection with the Pontbiga Mines, under the management of Messrs. John Taylor and Sons, earned a deserved high reputation. For this reason he was elected to his present position as manager of the Richmond Mine; under these circumstances, the periodical reports, signed by the manager, may safely be regarded as the true reflex of the condition of the mine, and, if less encouraging than some would desire, it is not just to blame the manager for it. Cablegram received—"Week's run, \$35,000. No. 2 furnace started." The make of bullion for the season is \$1,665,000, and since February, 1875, \$2,065,000. The refinery this season has produced gold and silver bars to the value of \$1,071,000, irrespective of the value of the lead. It is difficult to estimate from the cablegram the rate per furnace of the present week's run, as the date of starting No. 2 furnace is not given. No. 2 furnace had been running uninterruptedly for 140 days, and has now been almost rebuilt. No. 3 furnace was being re-lined, and, that completed, the three large furnaces will be in order. The manager's report appears to have been delayed in transit, as it only reached the London office on Monday. The contents are important, and strikingly significant of the singular erratic irregularity, both as to plan and section, which rules the ore body in the limestone formation. It will be recollected that the lode between the 500 and 600 ft. levels was found, in course of working, to have a large bulk of ironstone and limestone on its east side, which greatly diminished the reserves estimated between those levels. In stopping upwards, on the west side of the lode (in No. 1 stop), the ore body is now found to be extending towards the south-east, while in No. 2 stop—that is the ore body discovered at the back, or east side of the intruding mass of poor ore and rock—the ore body, which lately appeared to be pinching in, is now again expanding. The manager's previous report named the sinking of a winze 92 ft. below the 600 ft. level. The present report states that a drift started from bottom of winze had been "driven up to date, Jan. 27, 30 ft. in ore, and was still looking well" (width not stated). On the west side of the hill the winze sunk by the Eureka Consolidated Company, close to and into the Richmond boundary, over which the ore body reached was found to lie, has been cleared out and a drift started, which had been driven 10 ft., and "the end still in good ore." The extension from the Lizette tunnel was run to meet the anticipated continuance of this "West Hill discovery," and the winze about to be started will shortly establish the connection, if it exists, between the ore struck at the end of the tunnel extension and that now being drifted on from the extreme south-west boundary, a distance of some 300 ft. Eberhardt and Aurora have declined to 7½, 8½, upon a rumour that no dividend will be declared. Emma, 2½ to 2¾; the new Judicature Act allows defendants to compel plaintiffs either to proceed or withdraw. It is understood that Baron Grant has availed himself of this provision. Exchequer has improved to 1½, 1¾, and a good market. I.X.L., ¾ to 1¾.

The market for hydraulic gold mine shares on the Stock Exchange during the week has been moderately active, and prices remain at about last week's quotations. The storms of snow have been heavy and protracted, so that a good water season is ensured. Blue Tent, 4 to 4½; work is progressing as usual. The ditch is in capital order, notwithstanding the heavy storms, and as these subside the supply will be more regular and in greater volume. Sweetland Creek, 2½ to 3; Mr. McLean reports progress as usual, though the rough weather has somewhat interfered with the washing. Later news from California state that the weather was improving. Birdseye Creek, 2½ to 2¾; washing is progressing. The severe cold and heavy snow had prevented the company from obtaining the full benefit of the water, &c., during the late run, but matters are now progressing in better shape. Cedar Creek, ¾ to 1¾; a telegram from the agent this week announces the fact that the Badger shaft and Yankee tunnel had been communicated. This is most important news, as the company will thereby obtain a new claim to work on, and operations will no doubt

be commenced at once. Oregon (pref.), 4 to 4½; operations on the Thoss claim are reported as progressing very satisfactorily, and the yield of gold equal to expectations. The Reed claim is being rapidly filled up for work. Water in abundance, and all matters going on nicely.

Cape Copper, 38 to 39; the advices appear in another column. Cathedral, 25s. to 30s.; the lode in the engine-shaft is rapidly improving, it having opened out to 3½ ft. wide, and producing excellent copper, valued at from 200 to 300, per fathom. The next sale of copper will be the first week in March. Penstruthal, ¾ to ¾. All pits continue much as for some time past, only a better price wanted for tin to enable the mine to make good profits.

Subjoined are the closing quotations—
Asheton, 1½ to 1¾; Carn Brea, 35 to 37; Devon Great Consols, 4½ to 5; Dolcoath, 36 to 38; East Van, 2½ to 2¾; East Van, 21 to 22; Great Laxey, 18 to 19½; Great Wheal Vor, 1¾ to 2¼; Hingston Down, ¾ to 1; Marke Valley, 3½ to 3¾; Pateley Bridge, 6 to 6½; Parys Mountain, 18s. to 20s.; Pennerley, 1½ to 1¾; East Looe, 3 to 4; Penstruthal, 8s. to 10s.; Roman Gravel, 14½ to 15½; Tankerville, 12 to 12½; Tincroft, 18 to 19; Van, 40 to 42; Van Consols, 2½ to 2¾; West Asheton, 1¾ to 2; West Bassett, 5 to 6; West Chiverton, 17 to 18; West Pateley Bridge, 2½ to 3; West Tankerville, 2½ to 2¾; Wheel Green, 1½ to 2; Almada and Tinto, ¾ to ¾; Argentine, 7 to 7½; Birdseye Creek, 2 to 2½; Cape Copper, 38 to 39; Cedar Creek, ¾ to 1; Chontales, ¾ to ¾; Colorado Terrible, 1½ to 1¾; Condes of Chili, 6½ to 7; Don Pedro, ¾ to ¾; Eberhardt and Aurora, 7½ to 8½; Emma, 2 to 2½; Exchequer (Gold), 1½ to 1¾; Flagstaff, 1¾ to 2; Frontino and Bolivia, 2 to 2½; I. X. L., ¾ to 1; Javali, ¾ to ¾; New Quebrada, 3½ to 4; Richmond Consolidated, 6 to 6½; St. John del Rey, 375 to 385; San Pedro, 3½ to 3¾; South Aurora, ¾ to ¾; Sweetland Creek, 2½ to 3; Teocoma, 1½ to 1¾; United Mexican, 3½ to 4; Sierra Buttes, 1 to 1½.

COLLIERY SHARES.—A fair business has been done during the past week on the Colliery Share Market, upon which the theme of the moment has been the settlement by the Sliding Scale Committee of the rate of wages to be paid to the colliers during the present half-year, and the probable effect upon the profit and loss accounts of the South Wales collieries. During the latter half of last year there were few collieries making any profits, and it is really almost wonderful that so many have been able to survive the low price of coal and the high price of labour. The Sliding Scale Committee or Arbitration Board have, however, at last made their award, and declared a reduction of from 7½ to 38 per cent. in the rate of wages in South Wales, and this will naturally have the effect of placing all the collieries in the district in at least a safe position, while being a great benefit for such of them as from advantages, &c., has succeeded in wresting a decent profit from the present low price of coal. The award has been fairly well received by the colliers, and as there is a feeling that there will, at least for a time, be no further trouble in the way of strikes, colliery shares have been well enquired for, and in some cases an improvement in prices has been recorded. Richards and Co. close at 10 to 10½; Cardiff at 20, 20½, for the twelve months. The output during that period amounted to 157,190 tons, and the average rate of profit will be seen to have been 2s. 7d. per ton. The extraneous charges, however, including 7859, for depreciation, 2500, passed to reserve fund and mortgage interest, amounting to over 5000, reduce the above balance to a little over 1500, which is to be carried to next account. The capital amounts to practically over 400,000, and, but for its magnitude, the colliery would do well enough. A large business has been done in Chapel House shares, which have risen to 3½, ¾. The output for January has not been so large as usual, one of the pits ropes having been broken, and advantage was taken of this to effect a few desirable repairs in the pit. Everything, however, is now going on as satisfactory as ever. The new pits are being pushed on with all speed; the new engine, which is of great power, is now completed, and the 16 ft. pit is down 255 yards. The market for these shares is very firm, and it is anticipated they will see a further rise. Pellsall coal shares have been done at 9 to 11; Ebbw Vale, 22 to 24; Nant-y-Glo and Blaenau, 32 to 37; New British, 8 to 10, and Rhymney Coal and Iron, 27 to 29; Alltani, 8 to 8½; Llay Hall, 9½ to 10½; Whitehaven Iron, 3½ to 4; Ifon Rhyon, ¾ to 1.

HALIFAX—Feb. 25: The following quotations are from Mr. J. H. Thackrah's list:—Halifax, 2½ to 2¾; Halifax Joint-Stock Bank, 28½; Halifax Commercial Bank, 24½; London and Yorkshire Bank, 29s. 6d.; John Crossley's, 13½; Whitworth and Co., 8½; Eland Gas, 20; Rastick Gas, 18½; Bradford Brick and Tile, A, 23½; B, 7½; Charlestown Brick and Tile, 9½; Ripponden Commercial, 12 (ex div.); Hebden Bridge Cotton, 10½; Yorkshire Boiler Insurance Company, 22s. 6d.; Norton Brothers, 8.

At Swansea Ticketing, on Tuesday, 1167 tons of copper ore were sold, realising 22,433, 10s. 6d. The particulars of the sale were—Average standard for 9 per cent. produce, 1000, 18s. 6d.; average produce, 24; average price per ton, 19, 2s. 9d.; quantity of fine copper, 230 tons 1½ cwt. Subjoined are the particulars of the two last sales:—
Date. Tons. Standard. Produce. Per ton. Per unit. Ore copper.
Feb. 8 1021 £102 9 6 21 1 16 16s. 3d. £81 2 6
" 22 1167 100 18 6 24 19 2 9 18 0 80 0
Compared with the last sale, the decline has been in the standard 12 11s., and in the price per ton of ore about 7s. 6d. On March 7 there will be offered for sale 1271 tons, from the Cape, Batt's Cove, Laque la Abarea, and elsewhere. The Cape ores averaged 31½ produce, and sold at 25, 5s. 6d. per ton, or 16s. 1½d. per unit of fine copper. The average standard being 87, 15s. 3d.

WEST PATELEY BRIDGE.—The excellent prospects of the Pateley Bridge Mines have naturally caused considerable attention to be directed to the adjoining properties, and more especially to those through which the lodes that have proved so promising in the leading mine are known to pass. The very reasonable argument being that all the riches of all the lodes should be contained within the comparatively limited area of the Pateley Bridge sett. The West Pateley Bridge is regarded as one of the most carefully selected of the neighbourhood, and great expectations are entertained that it will prove fully as remunerative to the shareholders as Pateley Bridge itself. From the report of Messrs. David and Charles Williams, published in another column of to-day's Journal, it appears that the ore is found in almost a pure state, and requires little or no dressing, whilst the fact of the sett being in the same limestone formation, and containing the same lodes as the Pateley Bridge Mines, is accepted as evidence that the same results may reasonably be expected. The Jarrot, Sun, Folly, Hesel, Halden, Craven Cross, Rake, Lumb, Cleaver, and Pringap lodes all pass through the West Pateley Bridge sett, and the Capt. Williams considers that by driving the Craven Cross lode in the eastern part of the mine, at a point which they indicate, by driving a cross-cut north-easterly from a point about 200 fms. west of the Craven Cross, and cross-cutting north from the 45 fm. level, the appearance of the Golden Fleece lode being all that can be desired at the present depth they will quickly have about 56 fms. of dry backs on the various lodes, and, no doubt, obtain large returns at a comparatively small outlay. Capt. D. Williams being manager of Merryfield Mines, and Capt. C. Williams, of Pateley Bridge, they have, of course, acquaintance with the district, which much enhances the value of their report.

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INSTITUTION OF MARINE ENGINEERS.
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N. P. BURGH, Esq., will be DELIVERED at the HALL OF THE SOCIETY OF ARTS (by the kind consent of the Council), 19, John-street, Adelphi, on THURSDAY next, March 2, at Eight P.M.
Tickets may be had of the Secretary, Mr. M. A. SOUL, at the offices, 23, St. Mary Axe, E.C.

NEW SYSTEM OF ASSURANCE.—DIVIDENDS, INTEREST, RENT, or other INCOME from STOCKS, SHARES, FOREIGN BONDS, HOUSES, LAND, and PROPERTY of every description, may be secured by POLICIES OF ASSURANCE granted by the PROFIT UNION (LIMITED), 8, Union-court, Old Broad Street, London, E.C., where prospectuses and forms of proposal may be obtained.
S. BOOME, Secretary.
Applications for Agencies should be made to the Secretary.

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MESSRS. JAMES AND SHAKESPEARE have received instructions from the Sole Consignee and Agent of the Wallaroo Copper Smelting Company, TO DISPOSE OF, BY PUBLIC AUCTION (instead of by Private Contract, as heretofore) such METAL as he may IMPORT into ENGLAND during the present year. The intention is to hold periodical sales at intervals of three months, at each of which the quantity offered will probably range from 1500 to 2000 tons.

The FIRST SALE is fixed for TUESDAY, 28th March, at One P.M., at the BALTIC SALE ROOM, SOUTH SEA HOUSE, THREADNEEDLE STREET; and will consist of about 2000 tons, in Cakes and Ingots, but chiefly the former.

Catalogues, with full details and conditions, will be ready on Tuesday, 7th March, and may be obtained at the offices of the Selling Brokers, 10, Austinfriars, London, E.C.; and of 28, Exchange Buildings, Liverpool.

The attention of Manufacturers of Fine Brass, Cartridge Metal, German Silver, and Yellow Metal is particularly directed to these sales, Wallaroo Copper being exceptionally pure, and specially adapted for their requirements. This copper, moreover, combines within itself the properties attaching both to English Tough and Best Select; it can, therefore, be used in lieu of either description, and with far superior results.

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WANTED, a THOROUGHLY PRACTICAL and EXPERIENCED MAN.—Apply, by letter, to the Rhymney Iron Company (Limited), Rhymney, Monmouthshire.

WHEAL PEEVOR MINE.

WANTED, for this Mine, a STAMPING ENGINE of not less than 36 inch cylinder, with TWO BOILERS from 10 to 11 tons each, and 32 heads of STAMPS, complete.

Tenders, stating lowest price, and where to be seen, to be addressed on or before Wednesday, the 1st March next, to the Committee of Wheal Pevor, Redruth, marked on the outside "Tender for Engine," &c.

WANTED, for ROSEWALL HILL AND RANSOM UNITED TIN MINE, TOWEDNACK, a MANAGING AGENT. Salary, £9 per month.

Applications, with testimonials, to be sent to the Purser, Mr. T. W. ROBINSON, Hayle, until Saturday, 4th March.

WANTED, an ACCURATE DIALLER, SURFACE SURVEYOR, and NEAT DRAUGHTSMAN. Knowledge of Mining advisable, but not essential.—Address, Mr. EDDY, Skipton.

WANTED (secondhand), ONE OF BLAKE'S MOST POWERFUL STONE BREAKERS, equal to CRUSHING the HARDEST STONES OF COPPER ORE IN QUARTZ ROCK.

Particulars as to size, price, and where situated, to Capt. W. BAWDEN, Coniston Mines, Windermere.

WANTED, AN EXPERIENCED MINING PURSER AND BOOK-KEEPER, for a Mine in operation in SOUTH AMERICA. Knowledge of Spanish necessary. Candidates with some experience in Practical Mining and Metallurgy preferred.

Address, stating age and where previously engaged, to "K. K.," care of Mr. G. Street, 30, Cornhill, E.C.

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WEST WYE VALLEY LEAD MINE (LIMITED).

WANTED TO PURCHASE, FIFTY SHARES in EACH of the ABOVE MINES for prompt cash. No objection to treat for a larger number.—Sellers will please state number and lowest price to "J. G. H.," No. 81, Chapside, London.

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A MINE AGENT, of long experience in Cornwall and Foreign Countries—thoroughly acquainted with Pumping and Winding Machinery, the Separation of Lead and Blende, and other Minerals, mechanically; a good knowledge of Copper Smelting, speaks English, French, and German—DESIRE RE-ENGAGEMENT. Inspections and negotiations undertaken. Unexceptionable references.

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TALYBONT SILVER-LEAD MINING COMPANY.—Owing to certain circumstances, a Shareholder in this most promising undertaking is desirous to DISPOSE OF FIFTY SHARES, without premium, at 20s. per share. See last report of this company in Mining Journal of 12th inst. Address, "Talybont," Messrs. Deacon's, 154, Leadenhall-street, E.C.

FOR SALE.—FIVE HUNDRED SHARES (or any less number) in the HAREHOP GILL MINING COMPANY (LIMITED), near Birmo, W. Yorks. For full particulars, apply to Messrs. J. Howard and Co., No. 51, Old, Newgate-on-Tyne.

text, which makes it available for many purposes for which gun metal cannot be used, and for which yellow metal, which is found to be less than half as strong as this new metal, is invariably substituted.

GEOLOGY OF AUSTRALIA.—We have been favoured by Mr. R. Brough Smyth, the Secretary for Mines, with the revised edition of his "First Sketch of a Geological Map of Australia, including Tasmania," which has been published by the direction of the Hon. Wm. McLellan, M.P., Minister of Mines. The map is admirably engraved, and will, doubtless be of great utility to the colony, whilst it affords an idea of what may be expected in the large scale maps to which it will hereafter form the key.

GOLD RESOURCES OF VICTORIA.—The reports of the Mining Surveyors and Registrars for the September quarter of 1875 show that the total quantity of gold got was from alluviums 112,056½ ozs. and from quartz 173,231½; together, 285,288 ozs. The quantity of gold exported during the same time was 166,582½ ozs. The 255,080 tons of quartz crushed yielded at the rate of 11 dwts. 14½ grs.; the tons of quartz tailings and mullock at the rate of 2 dwts. 7½ grs.; and the 1912 tons of pyrites and blanketings operated on yielded at the rate of 2 ozs. 8 dwts. 17½ grs. per ton. The total number of miners employed was 42,149, of whom 16,537 Europeans and 11,145 Chinese were engaged in alluvial mining, and 14,318 Europeans and 149 Chinese were engaged in quartz mining. The approximate value of the mining plant in use was 2,053,207, the number of square miles of auriferous ground actually worked upon was 1093, and the number of distinct quartz reefs actually proved to be auriferous was 3467. The table showing the yield of gold from certain parcels of quartz raised during the quarter in some of the deepest mines in Victoria affords continuing proof that the riches are maintained in depth. In the Ararat district quartz from the depth of 712 feet yielded at the rate of 1 oz. 6 dwts. 11 grs.; in Castlemaine a yield of 3 ozs. 2 dwts. was obtained from quartz raised from 520 ft., and very good results have been obtained elsewhere.

COAL AND IRON IN THE UNITED STATES.—The aggregate deliveries of anthracite coal in Pennsylvania to Jan. 29 this year amounted to 1,634,809 tons, against 1,226,532 tons in the corresponding period of 1875, showing an increase of 408,277 tons this year. The aggregate deliveries of bituminous coal in Pennsylvania to Jan. 29 this year amounted to 215,209 tons, against 166,153 tons in the corresponding period of 1875, showing an increase of 49,056 tons this year. It will be seen that this year's figures compare favourably with those of 1875. Trade was much depressed in the early months of 1875 by a memorable strike. The United States Rolling Stock Company are engaged in building large repair shops at Urbana, Ohio, which will enable them to conduct their business to greater advantage. English rails in bond are quoted at New York at \$35 to \$36 per ton gold. American rails at the works have made \$45 to \$48 per ton currency.

SILVER.—In view of the present rapid depreciation in the value of silver it becomes especially important to take note of all facts bearing materially upon the future production of this metal. It would appear from statements in the California newspapers that the potential supply of silver in Western America is turning out to be wonderfully large. According to recent reports of mining engineers the quantity of silver ore at present within sight in the mines of the Consolidated Virginia and California Company alone is estimated at 84,000,000 cubic feet, equivalent to 7,000,000 tons. The average yield of pure silver from the ore is taken at \$100 per ton. The product of this vein, may, therefore, be expected to reach 700,000,000, or about 140,000,000. Much of this, however, lies very deep, as far down as 1400 ft. It must be remembered, too, that the cost of mining cannot be left out of sight, and it by no means follows that because the silver is there it will be extracted at the present low price of the metal. Moreover it is certain that the mining of even such portions of it as can be remuneratively obtained will be spread over many years.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

Feb. 24.—The Iron Trade of South Staffordshire is without improvement this week either in the pig or the finished departments, but prices continue to be fairly well maintained by the excessive cost of production. Such orders as are in the market are being keenly competed for, and many specifications which in the usual course of things would have found their way into this district are being sent to other centres of the industry. The aggregate yield both of pig and finished iron in the district is considerably under the usual average. The rates for pig-iron remain at 3½ to 3½ 5s. per ton for common cinder, and 4½ 10s. to 4½ 15s. for best native all-mine and hot-air make. Cold-air foundry pigs are very firm at 6½ per ton. Finished iron is quoted on the basis of 8½ for common and 10½ for branded bars, but the business doing is of unimportant extent.

The South Staffordshire Coal Trade is steady in regard to the better qualities, but inferior coal is in quieter demand, and prices are somewhat irregular. Many of the collieries in the Bilston and Darlaston districts are still standing idle, owing to the flooded state of the workings. Ironstone and gubbin are firm at 19s. to 20s. per ton of 2420 lbs., and supplies are very restricted.

The following were included in to-day's quotations on the Birmingham Stock Exchange:—Hamstead Colliery, 2 prem.; Cannock and Huntington Colliery, 1 prem.; Sandwell Park Colliery, 29; Mid-Cannock Colliery (5½ paid), 4 prem.; East Cannock Colliery, 80 prem. sellers; John Bagnall and Sons, 6½; Patent Nut and Bolt, 9 prem.; Patent Shaft and Axle, 4½ prem.; Oldbury Carriage, 13½.

Mr. Stephen Thompson (late of the firm of Thompson, Hatton, and Co.) has purchased the Lanesfield Ironworks, near Bilston, until recently worked by Mr. W. G. Merriman, and we understand that he intends to convert the establishment into a tin-plate mill.

The North Staffordshire Iron Trade continues flat, and particularly so as regards plates, and some other classes of finished iron. The pig-iron and ironstone trades are in a more satisfactory state, and prices are steady. The demand for coal in this district is good, and the output will shortly be increased by new sinkings on the Chatterley Company's estate, near, Bucknall.

Mr. Stephen Thompson, the wealthy iron and tin-plate manufacturer, who has retired from the firm of Thompson, Hatton, and Co., leaving that concern to be now carried on by Hatton, Sons, and Co., has become the purchaser of the Lanesfield Ironworks, between Wolverhampton and Bilston. This concern has seen a great deal of vicissitude, and in a few years has passed through many hands. Its reputation has not been high, but Mr. Thompson, who wrought so great a change in the Bradley Tin-Plate Works when he became its owner, will soon have greatly improved its status. Beneath it the coal is understood to be lying intact; yet the prevailing depression in the iron trade has enabled Mr. Thompson to become the possessor of it on terms which may be reasonably regarded as decidedly favourable. Iron only has hitherto been produced at Lanesfield, but henceforth Mr. Thompson will adapt the works to tin-plate making, and will here carry on that branch of manufacture.

Mr. F. W. Gerhard, of Cosely, is continuing the experiments in which he has for some time been engaged, with a view to the economical production of iron. Most recently he has given attention to the lessening of the waste in metal, which is too often seen in the quality of the tap and flue cinder which flows from the puddling and mill furnace respectively. This waste, he asserts, arises out of a deficiency of chemical knowledge on the part of the workers. He communicates that he recently had the opportunity of having some tons of pig-iron and scrap melted with a compound flux, or fettling, which he had discovered; and that the result was as he had anticipated—that on searching the residue, or slag, he only found occasionally a few globules or shots of iron. This "compound flux" not only, he says, prevents a waste of iron to the extent of from 2 dwts. to 2½ dwts. on the ton, but also contains, in addition to its which calcined cinder, locally termed "bull dog," does not. The flux, Mr. Gerhard adds, may be obtained "at only a few shillings per ton." He further asserts that it will enable oxides of iron (he-

matites and magnetites) to be made "in a properly constructed puddling-furnace direct from the ore into wrought-iron." If Mr. Gerhard can accomplish all this he will be doing great things for the whole iron industry. In the matter of making iron direct, he would be solving the problem upon which our best metallurgical chemists are now engaged wherever ironstone exists. We understand that he has expressed his views to certain leading ironmasters in South Staffordshire, but that he declines to demonstrate them until his discovery has been legally protected.

The second shaft of the Sandwell Park Colliery, we hear, has now been sunk to within about 38 yards of the Thick coal, the Brooch coal having been won yesterday. It is expected to reach the Thick coal in about six or seven weeks.

BIRMINGHAM WAGON COMPANY.—The annual meeting was held last week. Mr. W. Middlemore presiding. The profit for the year, including the balance brought forward, was 57,471 18s. 4d., and deducting the interim dividend, 47,724, remained for division. The directors recommend the payment of 6 per cent. on the preference shares, 10 per cent. on the original capital, and a bonus of 5 per cent. The additions to the reserve and depreciation fund would bring it up to 135,000. The report was adopted and the dividends recommended declared. At a subsequent meeting Mr. Fowler, the secretary, was appointed a managing director of the company.

PATENT NUT AND BOLT COMPANY.—The annual meeting was held, on Tuesday, at the Queen's Hotel, Birmingham, under the presidency of Mr. H. D. Pochin. The report showed that the net profit of last year, including the balance from the previous year, was 51,746 11s. 11d. The directors proposed to pay a dividend of 10 per cent. for the past year, and place 28,000 to the reserve fund, making it 50,000, and to carry forward a balance of 3748. The directors' report was adopted, and the dividend recommended declared. —*Birmingham Daily Post.*

REPORT FROM CORNWALL.

Feb. 24.—Again the standard for tin has gone down, after oscillating between hope and fear for the past three weeks. The cause is said to be the heavy arrivals from Australia, but we are not aware that they were at all heavier than was anticipated; and even thoroughly informed mining men, not adventurers merely, but interested in other ways, had held that the tide had turned. Of course it may be so now, and this may be merely one of those more violent movements of the retreating waves which always make it so difficult to understand when the tide is on the turn what its real tendency is. But we must confess the prospect is by no means encouraging if looked at from the production side only. In increased consumption lies the only hope of the immediate present. Meanwhile it is not encouraging to hear the smelters condemned for their exactions. They, it is said, take very good care that the pinch shall not fall upon them. They may be fortunate or not fortunate in forecasting the course of the market, but they manage to secure apparently that their ordinary profits on smelting shall be the same whether tin be high or low. There is much complaint that there is no sharing of the burden on their part, others are more hopefully disposed. We alluded last week to the liberality of Mr. Basset with regard to the reduction of dues at Cook's Kitchen and elsewhere. He has shown equal liberality towards Carn Brea, where the dues are now 1-40th. We cannot praise too highly the considerate action of this gentleman, who acts not merely liberally but with singular discretion.

We have heretofore alluded to the good that is likely to arise out of this depression in the matter of economy of working. This becomes clearer and clearer as time goes on. The trials of the boring machine at Dolcoath have been noted on several occasions, and we hear of new machinery being introduced in quarters where it was hitherto unknown. For example, trials of other forms of stamps are being made, which are spoken of very hopefully. Capt. Teague, to whose championship of Blake's Stone Breaker the country is much indebted, is likely to extend his application of these valuable machines. Moreover, he is adding to the number of his Dingey's pulverisers, which he has thoroughly proved, and which are now rapidly assuming the position which is their rightful due.

With all this before us, it does seem strange that at the Wheal Pevor meeting Capt. James should argue in favour of selling tin in the stone instead of having it stamped on the mine. Is it at all surprising that his peculiar error on this head should have excited so much comment? Two things are clear; first, the stone must be stamped before the tin can be extracted; and, secondly, it must be rich enough to pay the cost of extraction. If there is enough tin in the stone to pay, stamping will remunerate either the mine or the bargain buyer; if there is not it will remunerate neither. And as the bargain buyer must purchase the stone at a figure that will allow of his making a profit, to ordinary minds it must be quite clear that by retaining the stone and stamping for themselves the adventurers will put that profit in their own pockets, unless there is something very wrong in their way of going to work. Tin is essentially a manufactured article, and it is the business of its producer to get a profit out of all the departments of manufacture if they can. There are difficulties with regard to the smelting, but concerning the stamping there are none whatever.

The steam-stamps at Dolcoath were put to work again after the fire on Saturday evening. A smarter bit of work was never accomplished in the county.

Improvements are reported in several mines, some of considerable importance—South Crofty, Killifreth, Wheal Owles, and West Tolgus among the number. A curious case has come before the Vice-Warden of the Stannaries and a jury. Capt. Parkyn, of Roche, director and manager of the Wheal Mary Tin Mining Company, which has been wound-up, was sued by George, a tin-dresser, for wages; and the point involved was Capt. Parkyn's personal liability. The plaintiff swore that he was told by the defendant to go and work at Wheal Mary in December, 1873, and that in February, 1874, he told him to go on working, as "the money was as safe as if he had it in his hands." This was denied by defendant in his examination; but the plaintiff was corroborated by several witnesses, and especially by one, who stated that in January, 1874, the defendant addressed the men at work on the mine and said, "There is 3000 in the bank and 4 tons of tin; don't be afraid about the money, go on." But the chief point of plaintiff's case was that he had no knowledge that the company was limited; and that the name of the company had not been put up (as the law required) until after the mine had been knacked. The defendant's case was that he was merely agent, but the jury found for the plaintiff. Mr. Marrack applied for a new trial on the question whether the omission of the resident agent to affix the name of the company on the mine, as required by the statute, was of itself sufficient to make him liable for the debts of the company. The Vice-Warden, however, refused it.

Dr. Oxland has delivered a valuable lecture "On Mining and its Improvement," at the Plymouth Institution. One of his suggestions is exceedingly bold, especially for these times. He pointed out that Dolcoath and such mines were as rich in depth as above, and showed that the large specific gravity of the mass of the earth, as compared with that of the earth's crust, led to the conclusion that there was an enormous bulk of metallic minerals in depth. Hence there was a great problem to be solved with regard to deep working, and the immense importance of the experiment was worth a bold venture. He should, with this object, select a locality celebrated for its productiveness, giving the preference to that which had the greater number of lodes, and which was best suited for working purposes. There should be a capital of at least 1,000,000, three-fourths to be paid-up, and the remainder at call, on the Limited Liability Principle. The management should be in the hands of first-class men, and the miners the best that could be got. The main object should be the provision of the best means of access to a great depth, and not to one lode only, but to as many as possible; the levels communicating with which should be laid out regardless of immediate expense, in such a way as to provide for the extraction of the ore at the least possible cost. Everything should be done thoroughly, and with a view to the future, not merely to the present. The amount required might seem large, but surely it was better to endeavour so to develop the resources of their own country than to invest money in foreign loans for the support of effete Governments in the suppression of the liberties and progress of their subjects. Peculiarly interesting, too, were his remarks on the improved methods of extraction and dealing with mixed ores of various kinds, so as to secure thorough utilisation. He illustrated the principle by reference to a specimen of mixed ore which contained 3 per cent. of copper, 2 of tin, 20 of arsenic, 30 of sulphur,

30 of iron, 5 of wolfram, and 10 per cent. of silica and alumina. Now, if that were sold as copper ore, as under the old system it would have been, the percentage of copper was so small that it would only be worth a few shillings a ton. But if they enquired what was the value of the constituents generally, they found that in each ton the arsenic was worth 48s.; tin, 18s.; sulphur, 30s.; copper, 45s.; wolfram, 10s.—altogether 77 17s. They could afford, therefore, to spend some money in effecting the separation of minerals which when separated were worth so much, but when associated were worthless. The arsenic and sulphur could be displaced by heat, and that without the use of coal, for there were furnaces which turned out 20 to 30 tons of arsenic a day, and which burnt only air, arsenic, and sulphur, not merely saving the cost of the coal, but increasing the weight of the arsenic in the ore by the addition of the oxygen of the air employed, and so making the 4 cwt. of arsenic into 5-28 cwt. of arsenious acid, worth 3½ 3s. There still remained 30 per cent. of sulphur capable of being removed by heat. But to do so every 32 parts of sulphur would have to be replaced by 12 of oxygen, so that the removal of the arsenic and sulphur would leave 12 cwt. out of the ton remaining to be dealt with. Hitherto the sulphur had been got rid of by being sent into the atmosphere, but it could be converted into sulphuric acid, and used to produce hydrochloric, and by which the copper in the 12 cwt. could be dissolved out, and then precipitated by iron. This would bring the copper to 70 per cent. instead of 3. From the remaining 11-4 cwt. it was now easy to wash off the light oxide of iron, with the silica and alumina, leaving the tin and wolfram only in combination—33 per cent. of the former and 66 per cent. of the latter. The final operation was the conversion of the tungsten of the wolfram into tungstate of soda (an operation which cost nothing if properly conducted), and the separation of the tin in the form known as black tin. These processes had been abundantly proved to be perfectly practicable.

TRADE OF THE TYNE AND WEAR.

Feb. 24.—The general trade of the district continues very quiet, and the reduction of the wages of the Durham miners having now been effected no interruption in the working of the mines may be expected. The reductions in the rates of wages and in the price of all raw materials used in the manufacture of iron ought to enable our manufacturers to compete with those in other districts. The best steam coal works are still having a very dull time of it, many, indeed, are scarcely making half-time. The Baltic trade in the lower ports has opened, but no great change has been experienced as yet on the Tyne. The trade will, no doubt, improve when the Baltic is fully opened for the season; but, on the whole, the prospects for the Northern Steam Coal Trade has not been so dull for many years. A good deal of second-class coal, both steam, furnace, &c., are now sent to the Continent, and the use of these coals to a certain extent injures the trade in best house coal. There is a fair demand for best house and gas coal yet, but the supply of all second-class coal, furnace and manufacturing, is abundant. There is a fair demand for coke.

The Iron Trade in most branches continues very dull. At Middlesbrough, on Tuesday, the expectations entertained by many that the trade would improve after the settlement of the wages question has not been realised as yet, and the tendency of the market was towards increased dullness. The cheapness of the raw materials will, no doubt, aid the trade in a measure, although it will be some time before the relief will be felt. That a cheaper method of production is necessary is shown by the fact that Welsh railmakers considerably undersell those of the northern districts, and the latter, therefore, have great difficulty in securing orders against such strong competitors. There has been a small extent of work given out within the past few days, and one or two mills have been re-started. On the whole, however, the rail trade is in a bad state, and the outlook is by no means promising, either as regards work or remunerative prices. The plate and bar trades show but little alteration. The foundries are generally fairly engaged. The pig-iron market was extremely quiet, and prices, on the whole, lower than last week. The general figure of makers was 47s. 6d. to 50s. No. 3, and 49s. for No. 4 forge. There are makers, however, who are asking for higher rates. Merchants were offering No. 3 at 49s. The coal trade is very quiet, and prices lower. The steam coal trade is also dull. Coke is very firm at late rates.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

Feb. 24.—There has been very little alteration in the state of trade in Derbyshire during the past week. Several collieries are working short time, and the demand for house coal is by no means so brisk as it has been. The demand for London is rather moderate, and prices of the best qualities of house coal have been much in favour of merchants. Steam coals such as it has been, there being no marked move as yet in the demand, although it may be said to be rather better. There has not been much alteration with respect to the coal going to the home ports, whilst the trade with the Eastern Counties is less active than it has been. Still, sinking operations go on as usual, and there appears to be plenty of capital to invest in colliery property, be the same really good or otherwise. Of course there are operators, even in small matters, and they appear to be going ahead. Large concerns that can pay, of course, are not left to such gentry. Taking Derbyshire altogether, there is scarcely a doubt but, as regards its own trade, it is in as healthy a state as any other county we have where coal and iron are produced. The mills along the Erewash Valley line have been working very well, and the collieries have also been favourably off for business, most of them working five days a week. Several new collieries are being opened out in the district, Messrs. Barber, Walker, and Co., amongst others, having arranged to sink a 14-ft. shaft at Underwood. Lead mining is going on as usual, and production is kept up to the average, but there are few new ventures being made. Many of the Sheffield tradesmen at one time were very partial to speculating in the lead mines of Derbyshire, but their experience was so far unprofitable that they are not now to be attracted by the most alluring promises.

Some branches of the Sheffield trade are looking rather better, and most of the heavy and light mills are running very well. The demand for Bessemer steel rails, tyres, and other forgings, is increasing, and there is now every prospect of a good season's business. Fine qualities of table-cutlery are now in very fair request, whilst makers of edge-tools are well employed, especially for exportation to the colonies.

The Coal Trade of South Yorkshire is very quiet, and many of the collieries are working short time, in some instances not more than four days a week. The tonnage going to the metropolis is much less than it has been; and Silicesters and other sorts are easier to buy.

On Monday there was an exciting contest at Barnsley for the office of secretary to the South Yorkshire Miners' Association, for which there were eight candidates. The choice of the delegates—or rather the majority of them—fell to the lot of Mr. Frith, who has been the acting-secretary since the decease of Mr. Normansell.

A meeting of miners was held at Barnsley to listen to an address on the present and future prospects of the Shirland Colliery Company (Limited), which was purchased by the South Yorkshire Miners' Association a short time ago for 70,000. The greater part of the sum still remains unpaid. Mr. Holmes, of Methley, one of the directors appointed by the men, explained the present position of affairs, and stated that he, Mr. Mundella, M.P., and Mr. Moore, of Sheffield, agreed to act as provisional directors on condition that the Miners' Association was registered under the Trades Union Act, and the men provided the requisite funds in accordance with the terms laid down in the agreement. If these were not complied with they would resign. The sum of 25,000 had been paid. A large sum was due in March, and it was requisite that they met the claim, or they might have to forfeit what had been deposited. He admitted that the bargain, which had been made without the knowledge of the provisional directors, was not one of the best. But he suggested that the adjoining estate of 178 acres should be purchased, and he expressed his belief that the colliery would then pay well.

APPOINTMENT OF SECRETARY OF THE SOUTH YORKSHIRE MINERS' ASSOCIATION.—On Monday there was a good deal of excitement amongst the miners in the South Yorkshire district, it being the day appointed for the election of secretary in the

place of the late lamented Mr. John Normansell. There were eight candidates in the first instance, and most of them had been actively canvassing for many weeks past. The voting was conducted by means of a paper being sent round to each delegate. After the second round of the paper it was found that the four following candidates were left in:—Mr. Firth, Mr. Chapman, Mr. D. Moulton, and Mr. P. Casey. The latter two were then out-voted, and ultimately by a rather small majority Mr. Firth, the acting secretary, was declared duly elected.

REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

Feb. 24.—No change for the better has yet taken place in the Iron Trade, nor does there seem a probability of any occurring, at least in the immediate future. There have, however, been rumours of important changes in the trade, a large order for rails having again been stated to have been secured by a local firm, but as yet no foundation has been found for the rumour in fact. The exports of rails have been small, and prices low. Orders, too, are still scarce, though enquiries are plentiful; but manufacturers state that it is almost impossible to undertake contracts at prices which are offered. The Tin-Plate Trade is still rather unsatisfactory, and there is no improvement in the American demand.

The Coal Trade continues languid, but steam coal proprietors show a disposition to sell, a fact which buyers are taking advantage of. For house qualities the demand has rather slackened. It is to be regretted that Government has again ignored the claims of Welsh coal for the use of Her Majesty's ships on the Eastern waters. Australian coal is still to be used, although the objection with regard to higher price does not now militate against the produce of the Principality, and it is undoubtedly economically cheaper than that now decided on to be used. There are other reasons why Welsh coal would be most desirable for the purpose named. *A propos* of the coal trade of the district, we may observe that in very few instances indeed are the men declining work in consequence of the reduction of wages enforced by the Conciliation Board award. In fact, the result of an important meeting held yesterday at Merthyr may be said to have really put an end to any objection on the part of the men to the award. The delegates present represented nearly 36,000 house and steam coal colliers, and they passed a resolution in favour of abiding by the award. The men at Bishwells Colliery have resumed work after being on strike, and that, too, without receiving an advance. The colliery firemen in South Wales are threatened with a reduction of 20 per cent. in their wages, and on Friday (tomorrow) it is believed they will hold a delegate meeting to consider the matter. The engineers of the Aberdare and Rhondda Valleys have also received the unwelcome intelligence of a reduction about to be enforced. Two members of the South Wales Conciliation Board sat at Cardiff last week to enquire as to the amount of reduction to be made with "dead work" rates in several collieries of the district. The arbitrators (one representing the masters and the other the men) came to an agreement in each case.

It is recommended that a dividend at the rate of 10 per cent. per annum be paid for the past half-year by the Bilson and Crump Meadow Collieries Company (Limited). The company would have been in a position to pay from 3 to 4 per cent. more had it not been for a strike at the commencement of the year 1875. The shareholders may well congratulate themselves upon the results, as few companies can show such a balance-sheet as this for 1875. The company was launched about two years ago by Mr. H. Russell Evans, of London and Newport.

THE SCOTCH MINING SHARE MARKET—WEEKLY REPORT AND LIST OF PRICES.

During the past week there has been a little more business done in shares of iron and coal concerns than the continued depression in trade has caused transactions to be generally at prices in favour of buyers. The following dividends have been announced—9 per cent. on Benhar, with a balance to carry forward of 2500*l.*; the dividend for the corresponding period last year having been 14 per cent.; 35*s.* per share on Bolekew, Vaughan, A. and 30*s.* on Bolekew, Vaughan, B. making with interim dividends already paid, 81*s.* 3*d.* and 52*s.* 6*d.* per share respectively for the year; the corresponding dividends in 1875 being 87*s.* 6*d.* and 75*s.* respectively. The meeting of the Marbella Iron Ore Company is to be held on Friday, 25th inst. In shares of foreign copper concerns a large business has been done in Tharsis, which have been sold on less favourable views of the company's prospects, but at 22 there is a rally of 1 from the lowest business done (21). In home mines the market has been dull. Dunsley Wheel Phoenix has changed hands at 3*s.* 6*d.* (Clitters), 3*s.* 6*d.*, and Kilfrith, 1*s.* 10*d.*; the returns of tin from this last mine for this quarter will show well in quantity, and a rise in price of tin may be a favourable circumstance should cause the shares to take on a sharp rise. Dolcoath is 3*s.* 6*d.*, buyers. West Phoenix is 3*s.* 6*d.*, and Wheel Phoenix is 3*s.* 6*d.*, buyers. The market present no feature calling for special notice, and the various movements in prices are sufficiently indicated by the following details of the several days' business:

On THURSDAY last a moderate business was done. Australasian Mines, 1/4 to 1/2. Bayside Consols, 1/4 to 1/2. Benhar done at 11; new shares, 8 1/2 to 9 1/2. Cardiff and Swansea, 9 1/2 to 10. Dolcoath, 30 to 35. Dunsley Wheel Phoenix done at 6*s.* 6*d.*, 3*s.* 6*d.*, and 1*s.* 10*d.*; closing 1/2 to 1 1/4. East Van, 1 1/2 to 2 1/4. Flagstaff, 1 1/2 to 2 1/4. Glasgow Port Washington done at 3 1/2 to 4 1/2. Huntingdon done at 2 1/2 to 3 1/2. Kilmory, 1 1/2 to 2 1/4. Leith and Capella, 1 1/2 to 2 1/4. Marke Valley, 6 1/2 to 7 1/2. New Pembroke, 1 1/2 to 2 1/4. North Laxey, 1 1/2 to 2 1/4. Omea and Cleland done at 4 1/2 to 5 1/2. Tharsis done at 2 1/2 to 3 1/2. Young's Paraffin done at 8 1/2 to 9 1/2.

On FRIDAY the market was more animated. Tharsis attracted most attention. Australasian Mines, 1/4 to 1/2. Bayside Consols, 1/4 to 1/2. Benhar new shares done at 11 1/2 to 12 1/2. Bolekew, Vaughan, A. done at 30 to 35. Bolekew, Vaughan, B. done at 30 to 35. Canadian Copper Pyrites, 35 to 40. Dolcoath, 30 to 35. Exchange done at 1 1/2. Elbow Vale, 1 1/2 to 2 1/4. Leith and Capella, 1 1/2 to 2 1/4. Marke Valley, 3 1/2 to 4 1/2. Monkland 7 per cent. guaranteed, 6 1/2 to 7 1/2. Omea and Cleland done at 4 1/2 to 5 1/2. Plymouth Lead, 1/2 to 1 1/4. Richmond done at 6 1/2 to 7 1/2. Snowbrook, 5 to 6. Tharsis done at 2 1/2 to 3 1/2. West Phoenix, 3 1/2 to 4 1/2. Young's Paraffin done at 8 1/2 to 9 1/2.

On SATURDAY the market was quiet. Australasian Mines, 1/4 to 1/2. Benhar new shares done at 11 1/2 to 12 1/2. Bolekew, Vaughan, A. done at 30 to 35. Bolekew, Vaughan, B. done at 30 to 35. Canadian Copper Pyrites, 35 to 40. Dolcoath, 30 to 35. Exchange done at 1 1/2. Elbow Vale, 1 1/2 to 2 1/4. Leith and Capella, 1 1/2 to 2 1/4. Marke Valley, 3 1/2 to 4 1/2. Monkland 7 per cent. guaranteed, 6 1/2 to 7 1/2. Omea and Cleland done at 4 1/2 to 5 1/2. Plymouth Lead, 1/2 to 1 1/4. Richmond done at 6 1/2 to 7 1/2. Snowbrook, 5 to 6. Tharsis done at 2 1/2 to 3 1/2. West Phoenix, 3 1/2 to 4 1/2. Young's Paraffin done at 8 1/2 to 9 1/2.

On MONDAY the business done was small. Australasian Mines, 1/4 to 1/2. Benhar new shares done at 11 1/2 to 12 1/2. Bolekew, Vaughan, A. done at 30 to 35. Bolekew, Vaughan, B. done at 30 to 35. Canadian Copper Pyrites, 35 to 40. Dolcoath, 30 to 35. Exchange done at 1 1/2. Elbow Vale, 1 1/2 to 2 1/4. Leith and Capella, 1 1/2 to 2 1/4. Marke Valley, 3 1/2 to 4 1/2. Monkland 7 per cent. guaranteed, 6 1/2 to 7 1/2. Omea and Cleland done at 4 1/2 to 5 1/2. Plymouth Lead, 1/2 to 1 1/4. Richmond done at 6 1/2 to 7 1/2. Snowbrook, 5 to 6. Tharsis done at 2 1/2 to 3 1/2. West Phoenix, 3 1/2 to 4 1/2. Young's Paraffin done at 8 1/2 to 9 1/2.

On TUESDAY (being a bank holiday) the market was dull. Australasian Mines, 1/4 to 1/2. Bayside Consols, 1/4 to 1/2. Benhar new shares done at 11 1/2 to 12 1/2. Bolekew, Vaughan, A. done at 30 to 35. Bolekew, Vaughan, B. done at 30 to 35. Canadian Copper Pyrites, 35 to 40. Dolcoath, 30 to 35. Exchange done at 1 1/2. Elbow Vale, 1 1/2 to 2 1/4. Leith and Capella, 1 1/2 to 2 1/4. Marke Valley, 3 1/2 to 4 1/2. Monkland 7 per cent. guaranteed, 6 1/2 to 7 1/2. Omea and Cleland done at 4 1/2 to 5 1/2. Plymouth Lead, 1/2 to 1 1/4. Richmond done at 6 1/2 to 7 1/2. Snowbrook, 5 to 6. Tharsis done at 2 1/2 to 3 1/2. West Phoenix, 3 1/2 to 4 1/2. Young's Paraffin done at 8 1/2 to 9 1/2.

On WEDNESDAY the market remained quiet. The new account opened for settlement, March 15; Tuesday, March 11, will be a quiet day. Australasian Mines, 1/4 to 1/2. Bayside Consols, 1/4 to 1/2. Benhar new shares done at 11 1/2 to 12 1/2. Bolekew, Vaughan, A. done at 30 to 35. Bolekew, Vaughan, B. done at 30 to 35. Canadian Copper Pyrites, 35 to 40. Dolcoath, 30 to 35. Exchange done at 1 1/2. Elbow Vale, 1 1/2 to 2 1/4. Leith and Capella, 1 1/2 to 2 1/4. Marke Valley, 3 1/2 to 4 1/2. Monkland 7 per cent. guaranteed, 6 1/2 to 7 1/2. Omea and Cleland done at 4 1/2 to 5 1/2. Plymouth Lead, 1/2 to 1 1/4. Richmond done at 6 1/2 to 7 1/2. Snowbrook, 5 to 6. Tharsis done at 2 1/2 to 3 1/2. West Phoenix, 3 1/2 to 4 1/2. Young's Paraffin done at 8 1/2 to 9 1/2.

On THURSDAY (being a bank holiday) the market was dull. Australasian Mines, 1/4 to 1/2. Bayside Consols, 1/4 to 1/2. Benhar new shares done at 11 1/2 to 12 1/2. Bolekew, Vaughan, A. done at 30 to 35. Bolekew, Vaughan, B. done at 30 to 35. Canadian Copper Pyrites, 35 to 40. Dolcoath, 30 to 35. Exchange done at 1 1/2. Elbow Vale, 1 1/2 to 2 1/4. Leith and Capella, 1 1/2 to 2 1/4. Marke Valley, 3 1/2 to 4 1/2. Monkland 7 per cent. guaranteed, 6 1/2 to 7 1/2. Omea and Cleland done at 4 1/2 to 5 1/2. Plymouth Lead, 1/2 to 1 1/4. Richmond done at 6 1/2 to 7 1/2. Snowbrook, 5 to 6. Tharsis done at 2 1/2 to 3 1/2. West Phoenix, 3 1/2 to 4 1/2. Young's Paraffin done at 8 1/2 to 9 1/2.

60*s.* Omea and Cleland done at 4*s.* 6*d.*, closing 4*s.* 6*d.* to 4*s.* 6*d.* Richmond, 6 1/2 to 7 1/2; this week's run is 335,000. Tharsis opened at 2 1/2 to 3 1/2, fell to 2 1/2, afterwards recovered to 2 1/2 to 3 1/2, closing 2 1/2 to 3 1/2; new shares, 1 1/2 to 1 1/2. Wheel Kitty (St. Agnes), 2 1/2 to 3 1/2, sellers. Young's Paraffin, 8 1/2 to 9 1/2. J. GRANT MACLEAN, Stock and Share Broker. Post Office Buildings, Stirling, Feb. 24.

FROM A LONDON STOCK BROKER'S CIRCULAR.

The English railway market has been very depressed during the past week, the fall in some cases being very considerable. North British, Caledonian, Great Western, and Sheffield has suffered most. Caledonian has fluctuated from 3 per cent. to 4 per cent., North British 8 per cent., being offered at one time at 113, which price, however, brought in a few purchasers, the stock now being about 2 per cent. better. The announcement of the Great Western dividend at 4 1/2 per cent. against 5 per cent. last year, and the indifferent traffic returns created a very unfavourable feeling with regard to British railways, and caused a further depression in the market. Canadian railways keep steady, a more hopeful feeling appearing to exist with regard to Canadian railway securities. In the foreign market prices have mostly declined, Spanish were in great demand in the early part of the week on the success of the Royal troops, but have since declined. Egyptian have fluctuated considerably on French selling and various adverse reports, the fall for the week being from 2 per cent. to 3 per cent. Peru and Turkish are also somewhat lower in price, the former stock being offered on the unfavourable reports respecting the guano deposits. J. Y. WATSON, JUN.

PRINCE OF WALES SLATE QUARRY, CARNARVONSHIRE.—It will be observed, from an advertisement in another column, that the directors of the New Prince of Wales Slate Company (Limited) are issuing the balance of their share capital, in order, as we understand, to complete the development of the quarry, and to increase its production. Some idea of the magnitude of the quarry may be obtained from the fact that the eight galleries—each 18 yards in depth—already opened extend for a total length of 800 yards on the course of the slate veins, and that other galleries can be continued for another 500 yards, so that the actual workings would cover three-quarters of a mile. These galleries are laid out in such a manner that the tramway from each leads to a common point, and the rubbish is tipped away to the head of a valley about 300 yards deep, and a mile in length. One great advantage to be obtained by this mode of working by galleries is that no lifting power is required. The quarry is provided with every requisite in plant and machinery, reservoir, tramway, and inclines, the latter leading down to the machine-house, in which are four sawing and two planing machines, driven by a powerful water-wheel. About 8000*l.* worth of slates and slabs have already been sold from the quarry, and this result has been attained more incidentally in opening out and developing than in the regular working of the quarry. The slate trade has been rapidly increasing, large orders having frequently to be kept on hand for months, whilst prices have steadily advanced, a further rise of 10 per cent. having taken place on the 1st inst. A parliamentary line of railway on a 2 ft. gauge runs through the property direct to the port of Portmadoc. The veins of slate in this quarry are said to be identical with those on which the two most famous slate quarries in the world are worked—Lord Penrhyn's "Penrhyn Quarry" and Mr. Assheton Smith's "Dinorwic Quarry"—and it is well known that when once a slate quarry has become profitable there is no uncertainty about its durability.

COPPER IN DENBIGHSHIRE.—Denbigh and Llansannan are in a state of high expectation and excitement at the resuscitation of the works at the old copper mine at Dyffryn Aled, on the property and close to the mansion of Pierce Wynne Yorke, Esq. (worthy scion of the Wynne and Hardwicke families). A company has been formed under the most favourable auspices, and a strong and influential directorate elected, consisting of the Rev. A. L. Lodge (brother-in-law of the lessor), several of Mr. Yorke's personal friends, the vendors, who give the best possible proof of their opinion of the value of the property by taking the whole purchase-money in shares, and two Lancashire gentlemen, whose names are a guarantee of the manner in which the business of the company will be conducted. Our frequent communications convince us of the energy and judgment which are now characterising mining operations in the Principality. Rich beyond all comparison in slate, granite, coal, lead, clay, and even gold, we see that copper of the finest quality is now added to the list. A large quantity has been extracted already from this mine, and the price it has always commanded is the best proof of its character. Not a shilling in money having been paid to enter; the fact that the previous owners, who know the property thoroughly, not only taking seats at the board, but accepting payment for their entire interest in shares, places this mine on the list of the fairest and most legitimate speculations at present on the market, and we heartily wish the scheme the success it deserves. The advertisement of the company will be found in another column.

A petition to wind-up the Barrow and Butson Mining Company (Limited), has been presented to the Vice-Warden of the Stannaries.

A petition to wind-up the East Trumpet Mining Company has been presented to the Vice-Warden of the Stannaries.

An order having been made to wind-up the Garw Valley Collieries Company (Limited), Mr. Edwards, of the firm of James and Edwards, has been appointed official liquidator.

Vice-Chancellor Sir Richard Malins has appointed Mr. Fred. Warwick the official liquidator of the Mendip Hematite and Lead Mining Company (Limited), and also to the Eskern Slate and Slab Quarries Company (Limited).

An extraordinary meeting of the Imperial Brazilian Collieries (Limited) will be held on March 1, when, "in view of the danger to be apprehended to the company's concession in the event of winding-up," a resolution will be proposed inviting the co-operation of the directors with the debenture holders.

An extraordinary meeting of the South Aurora Consolidated Mining Company (Limited) is called for March 1, to authorise the directors from time to time to divide rateably among the shareholders the whole, or any part, of the paid up capital or shares held by the company in other undertakings.

Messrs. Foreman and Cooper, Gresham-street, notify that the partnership existing between them was dissolved by mutual consent; and Mr. W. C. Cooper announces that he will in future carry on business as a public accountant at 20, King's Arms yard, Coleman street, under the style of W. C. Cooper and Co.

| LEAD ORES. | | | | |
|------------|---------------|-------|----------------|------------------------|
| Date. | Mines. | Tons. | Price per ton. | Purchasers. |
| Feb. 10. | Maesyrwddw | 25 | £15 18 6 | Adam Eytton. |
| — | ditto | 25 | 15 18 6 | ditto |
| — | Cottrell's | 40 | 16 2 6 | Walker, Parker, & Co. |
| 14 | Glogfawr | 10 | 20 5 6 | Burry Port Company. |
| — | Glogfawr | 70 | 16 3 6 | Sheldon, Bush, & Co. |
| — | East Darren | 35 | 19 11 6 | Adam Eytton. |
| — | Cwmystwith | 12 | 14 10 0 | Panther Lead Company. |
| 16 | Great Snecell | 5 1/2 | 18 10 0 | Sheldon, Bush, & Co. |
| — | ditto | 18 | 18 10 0 | Burry Port Company. |
| 18 | Great Laxey | 60 | 24 7 6 | ditto |
| 21 | South Darren | 15 | 20 4 6 | Treffry's Estate. |
| 22 | Foxdale | 100 | 24 8 6 | Burry Port Company. |
| 23 | Dyffryn | 80 | 15 8 0 | Panther Lead Company. |
| 24 | Grogwion | 70 | 15 9 0 | Nevill, Druce, and Co. |
| — | Port Nigel | 40 | — | Runcorn Smelting Co. |

| BLENDE. | | | | |
|---------|------------|-------|----------------|----------------------|
| Date. | Mine. | Tons. | Price per ton. | Purchasers. |
| Feb. 22 | Willoughby | 30 | £3 6 6 | Villiers Spelter Co. |
| 23 | Talargoch | 200 | 4 19 3 | Tindale Spelter Co. |

| BLACK TIN. | | | | |
|------------|--------------|-------|--------|----------------|
| Date. | Mines. | Tons. | q. lb. | Price per ton. |
| Feb. 23 | Wheal Coates | 7 | 14 1 | £45 12 6 |
| — | — | — | — | £51 19 8 |

NEW CWM ELAN LEAD MINING COMPANY (LIMITED).

Issue of 700 Unallotted Shares of £5 each.

The Directors have determined to issue the 700 Unallotted Shares in this company, making, with those already allotted, the capital of 1200 Shares, £25 each, £6000. The company purchased the lease of the mine, with all the substantial buildings, and mining and dressing machinery thereon (which cost the former company about £26,500), for £1148 10*s.* 6*d.*; and the whole of this property was obtained and this company formed for £1200.

The ore raised and sold from the mines during the year ended December 31st, 1875, has realised £1165, and at that date there was about £250 value of ore upon the mine in course of being crushed and dressed. The year's operations have been very satisfactory, and the prospects of the mine are most encouraging.

Forms of application for shares may be obtained of the Secretary, at the company's office, No. 110, Cannon-street, London, E.C., who is instructed to receive applications for the unallotted shares, accompanied by a deposit of 10*s.* per share.

FOR SALE (new). A PAIR OF COUPLED HORIZONTAL WINDING ENGINES, 14 in. cylinders, and 3 ft. 6 in. stroke, with WINDING GEAR AND DRUM, complete; also, TWO EGG END BOILERS, 32 ft. by 4 ft. 6 in. in diameter. The engines, &c., can be seen at Swansea. For inventory and further particulars, apply to J. S. STALLARD, 1, Gresham Buildings, Basinghall street, E.C.

FOR SALE, a splendid 40-ft. WATER WHEEL, 4 ft. breast, with double-gear DRAWING MACHINE, balance bob and connection, all complete. For particulars address, Messrs. J. TAYLOR and Co., 85, London Wall, E.C.

AUSTRALIAN UNITED GOLD MINING COMPANY (LIMITED).

WE, THE UNDERSIGNED LIQUIDATORS of the ABOVE-NAMED COMPANY, hereby give notice that we are ABOUT TO CLOSE the AFFAIRS of this COMPANY, and any person or persons having a claim against the said company are requested to send to us forthwith the particulars of same, in order that it may be settled, if correct, and if no such claim or claims are received within one month from this date we shall proceed without delay to finally complete the winding up of the company as if no claims existed.

We also hereby request the holders of Share Warrants to bearer who have not yet sent in particulars of their holding to forward us immediately the numbers of such Warrants, the distinctive numbers of the shares, and the number of shares therein contained, in order that they may participate in the distribution of assets now being made.

HENRY WM. LAMB, } Liquidators.
J. H. MURCHISON, }

8, Austinfriars, London, 16th February, 1876.

NOTICE IS HEREBY GIVEN, that the ORDINARY GENERAL MEETING of the SOUTH AURORA CONSOLIDATED MINING COMPANY (LIMITED) will be HELD at the City Terminus Hotel, Cannon-street, London, on WEDNESDAY, the 1st day of March, 1876, at Two o'clock P.M. By order, CHARLES CADOGAN, Secretary. 17, Abchurch-lane, Cannon-street, E.C., 19th February, 1876.

THE SOUTH AURORA CONSOLIDATED MINING COMPANY (LIMITED).

Notice is hereby given, that an EXTRAORDINARY GENERAL MEETING of the South Aurora Consolidated Mining Company (Limited) will be HELD at the City Terminus Hotel, Cannon-street, in the City of London, on WEDNESDAY, the 1st day of March, 1876, immediately after the close of the Ordinary General Meeting of the company, which will be held at Two o'clock in the afternoon of the same day; and at such Extraordinary General Meeting the following resolution will be proposed, viz.:

Resolved,—That the following Article be and the same is hereby added to the Articles of Association of the company:—
"64a.—The directors may from time to time, with the sanction of an Extraordinary General Meeting, divide rateably among the shareholders the whole or any part or parts of the paid-up capital or shares held by the company in other undertakings or other assets of the company, at such time or times, and by such instalments, as the Board may think fit."
By order of the Board, CHAS. CADOGAN, Secretary. 17, Abchurch-lane, London, E.C., 19th February, 1876.

THE SOUTH AURORA CONSOLIDATED MINING COMPANY (LIMITED).

Notice is hereby given, that the TRANSFER BOOKS of this company will be CLOSED on THURSDAY next, the 24th inst., and RE-OPENED on FRIDAY, the 3rd day of March next.

By order of the Board, CHAS. CADOGAN, Secretary. 17, Abchurch-lane, Cannon-street, 19th February, 1876.

DYFFRYN ALED COPPER AND LEAD MINING COMPANY (LIMITED).

Capital £20,000, in 4000 shares of £5 each.

£1 per share on application, and 10*s.* on allotment. Calls will not exceed 5*s.* per share, nor be made at intervals of less than three months. Registered under the Companies Acts, 1862 and 1867.

DIRECTORS.

The Rev. ANEURIN LLOYD LODGE, Rector of Wavertree.
Col. J. E. MADOCKS, The Albany, Piccadilly, London.
HENRY MADOCKS, Esq., Brandon House, Coventry.
W. L. BRAMWELL, Esq., Liverpool (Director of the Bedford Pits Colliery Company, Mold).
JAMES BRAMWELL, Esq., Nelson-street, Liverpool.
WILLIAM HENRY HEAP, Esq. (Chairman of the Glan Clywd Lead Mining Company).
Mr. Councillor ROBINSON, Rochdale (Director of the Glan Clywd Lead Mining Company).
BANKERS—THE MANCHESTER AND LIVERPOOL DISTRICT BANKING COMPANY, Manchester, and Branches.
SOLICITOR—GEORGE BRETT, Esq., Manchester.
AUDITOR—JAMES TAYLOR, Rochdale.
SECRETARY—CHARLES EDWIN WILSON, Manchester.

REGISTERED OFFICE.

WHITTINGTON CHAMBERS, 59, PICCADILLY, MANCHESTER.

EXTRACT FROM PROSPECTUS.

This company is formed for the purpose of working, on a larger scale than hitherto, the mines of copper, lead, calamine, black lead, and all other minerals and metallic matters whatsoever (except gold), under certain lands situate at Dyffryn Aled, in the parish of Llansannan, county of Denbigh, containing in statute measure 650 acres, or thereabouts, by virtue of a title deed granted by Pierce Wynne Yorke, Esq., for a term of four years from the 15th of January, 1874, with the benefit of a covenant by the said Pierce Wynne Yorke, to grant a lease from the expiration of the aforesaid four years, for a term of 21 years.

The mine has been successfully worked for many years, but as the upper parts are now diminishing rapidly, it is necessary to sink to the lower and larger lodes and to extend the level westward, in which direction the lodes have again continued to improve, keeping nearly joined together, and yielding larger quantities of copper ore of the highest quality.

There is a nearly new 12 horse engine within the mine. The tramways, pumps, tools, &c., are all in good working order, and the ventilation perfect. Every facility will be given to intending investors to inspect the mine and judge for themselves, and the highest references afforded to prove the bona fides of the scheme.

The mine was for many years a splendidly paying concern, the ore bringing the highest price in the Amblew market. Want of capital for its extensive development has alone induced the owners to consent to the formation of the present company.

Attention is respectfully drawn to the reports of W. Semmons, Esq., F.G.S. Captain Roach (of Llanelloes), and Walter Eddy, Esq. (Fron, Llanelloes).

Since these reports were written a new and promising lode has been discovered on the level of the main adit.

The only expenses to be borne by the company are the cost of registration and the solicitor's charges.

Copies of the aforesaid Agreement, and copy of the Memorandum and Articles of Association, can be seen on application to the Secretary or Solicitor of the company, where prospectuses, &c., may also be had.

MR. W. TREGELLAS, 122, BISHOPSGATE STREET WITHIN, E.C.

Deals in all descriptions of Stocks and Shares at close market prices.

MR. T. TIMOTHY HUGHES, 59, SEEL STREET, LIVERPOOL.

The Registered Office of the PRINCE PATRICK GROSVENOR, VICE-BRYN CELLY, CENTRAL FOXDALE, and GREAT EAST FOXDALE LEAD MINING COMPANY (LIMITED). Full information respecting these Mines forwarded on application.

RELIABLE INFORMATION given respecting Mines in the Isle of Man, Fife-shire, and the neighbouring districts.

MR. W. F. STANLEY, MATHEMATICAL INSTRUMENT MANUFACTURER TO H.M.'S GOVERNMENT, COUNCIL OF INDIAN SCIENCE AND ART DEPARTMENT, ADMIRALTY, &c.

MATHEMATICAL, DRAWING, and SURVEYING INSTRUMENTS of every description, of the highest quality and finish, at the most moderate prices. Price-list post free.

ENGINE DIVIDER TO THE TRADE.

ADDRESS—GREAT TURNSTILE, HOLBORN, LONDON, W.C.

MESSRS. J. HOWARD AND CO.

ACCOUNTANTS, SHAREBROKERS, AND MINE BROKERS, 51, SIDE, NEWCASTLE-ON-TYNE.

J. H. and Co. have a few of the HAREHOPE GILL SHARES on hand. These are good prospects of these shares advancing shortly.

MR. R. PERCY ROBERTS, FINANCIAL AGENT.

40, ENGLISH STREET, CARLISLE.

MR. M. W. B. A. W. D. E. S. GENERAL ASSAYER, LISKEARD, CORNWALL.

ANALYSES of every MINERAL PRODUCT CAREFULLY CONDUCTED.

THE NEW PRINCE OF WALES SLATE COMPANY, LIMITED.

Share capital £50,000, in 10,000 Shares of £5 each.
Over £44,000 already taken up in Shares and Debentures.

DIRECTORS.

CHARLES BARTON, Esq., Holbrook House, Wincanton.
THOMAS HARTY, Esq., St. Clement's House, Clement's-lane, London.
JAMES MAW, Esq., Slate Merchant, Stratford, Essex.
Rev. J. H. SHORT, Temple Balsall, Knowle, Birmingham.
JAMES STEWART, Esq., 49, Leadenhall-street, London.
GENERAL MANAGER.
JOHN FRANCIS, Esq., late Manager of Lord Penrhyn's Quarry.

The directors are prepared to receive applications at par for 2504 shares of £5 each, being the balance of the share capital. The quarry of the company, situate at Cwm Trwswl, in the county of Carnarvon, is provided with every requisite in plant and machinery, has been extensively developed, and is in active operation. A line of railway runs through the property direct to the shipping port of Port Madoc. Full particulars of the company may be obtained on application to the Secretary, at the company's offices, St. Clement's House, Clement's-lane, London, E.C.

THE WEST PATELEY BRIDGE LEAD MINES, LIMITED.

Capital £20,000, in 4000 Shares of £5 each,
1000 of which are held in reserve.

DIRECTORS.

GEORGE BRIDGER, Esq., 33, East Park Terrace, Southampton.
Capt. E. C. S. HELY, 47, Eardley Crescent, South Kensington.
ABNER TORKINGTON, Esq., 9, New Bridge-street, Blackfriars.
BANKERS.
The CONSOLIDATED BANK (LIMITED), Threadneedle-street, E.C.
SECRETARY—W. J. LAVINGTON, Esq.
OFFICES—14A, AUSTINFRIARS, LONDON, E.C.

The following is the joint report of Capt. DAVID WILLIAMS, Manager of the Merryfield Mine, and Capt. CHARLES WILLIAMS, of the Pateley Bridge Lead Mines and Smelting Company:—

WEST PATELEY BRIDGE LEAD MINES.

Pateley Bridge, Yorkshire, 10th February, 1876.—We have jointly visited these mines to day, and have thoroughly inspected both the underground and surface workings, beginning in the joint adit level, where several of the productive lodes are passing from the Pateley Bridge Mines into this property, viz.:—Jarnot, Sun, Folly, Hesel, Halden, Craven Cross, Rake, Lamb, Clearer, and Pringap, all of which have proved enormously rich in the Pateley Bridge Mines to a depth of 20 fms. below the joint level, and are now being worked very extensively in the latter mines, showing a fine ore from 15 in. to 18 in. thick of pure metal, worth at least £50 per ton; indeed the ore is found in almost a pure state, and requires little or no dressing, and, as your mines are in the same limestone formation and contain the same lodes as the Pateley Bridge Mines, you may reasonably expect the same results. In fact, the surface workings on the Rake and Craven Cross veins prove without a doubt that you possess a most valuable property, and only require a small outlay to bring it into a permanent and profitable state. The great advantage is that the joint adit level has already been driven parallel with the boundary of your ground for a considerable distance, at a depth of 50 fms. below surface, and from which point all the lodes can be intersected by cross cuttings.

We advise the following work to be at once proceeded with:—
1.—To drive the Craven Cross lode, by six men, in the eastern part of the mine (at a point marked D on the plan), which in itself is to be a productive one; it forms a series of intersections and junctions with other rich lodes, thereby being a most important work, and as soon as the upper workings are drained regular returns of lead ore can be made at once.
2.—To drive a cross cut in the north easterly direction, at a point about 200 fms. west of the Craven Cross, by six men; this is a most important point, inasmuch as it will cut eight known lodes, all of which have proved very productive near the surface.
3.—To cross cut north, by four men, from the 42, in the eastern end of the ground, to cut several of the north lodes coming in from the East Craven Moor Mine, which were left very rich by the former workers on account of the great influx of water.
The shaft now in course of sinking upon Golden Fleece lode is down between 5 and 6 fms. The lode in the bottom is 2 ft. wide, composed of lime spar, gessan, and lead ore of fine quality, and the appearance of the vein is everything that can be desired at the present depth.
In conclusion, we beg to remark that if these trials are carried out you will have about 50 fms. of dry backs upon the various lodes, and, no doubt, you will have large returns at a comparatively small outlay.

DAVID WILLIAMS, C. WILLIAMS.

THE EAST ELWY RIVER LEAD MINING COMPANY (LIMITED).

Incorporated under the Companies Acts, 1862 and 1867.

Capital £20,000, in 4000 Shares of £5 each,

For which share warrants to bearer will be issued, thus avoiding the trouble and expense of transfer deeds, and doing away with that annoyance so frequently the result of registration as a shareholder.
Payment, £2 10s. on application, and £2 10s. on allotment.
If no allotment is made the deposit money will be returned without deduction.

MESSRS. THORNYCROFT AND CO., 30, Brookley Buildings, South John-street, Liverpool, are AUTHORISED to INVITE SUBSCRIPTIONS for ONE THOUSAND SHARES of the EAST ELWY RIVER LEAD MINING COMPANY (LIMITED). Unlike many of the Welsh lead mines brought before the public, where "promising appearances" and "reliable indications" alone form the inducements held out to investors, this property has been developed to such an extent as to prove the existence of rich lead ore both in the shallow and deep workings, and in such quantities as to justify the strong expectation of early dividends held out by the prospectus.

In the case of this mine it is not a question of speculation as to what will be found when certain work is done, but an absolute fact that the completion of the deep adit level will provide facilities for getting away the ore already discovered, and also promote the further profitable development of this property, which Messrs. Thornycroft and Company confidently believe will eventually prove to be one of the most successful mines in Wales; and, judging by the high premiums to which dividend-paying mine shares rise in the market, they think it not at all improbable that the East Elwy River Lead Mine Company's shares of £5 each may be long quoted from £10 to £20 per share; and it is their belief that, under any circumstances, the shareholders may look for a very large percentage of profit.

ABRIDGED PROSPECTUS.

The property of the East Elwy River Lead Mining Company (Limited) is situate a short distance from the village of Talharth, and about five miles from the Abergele station of the Chester and Holyhead Railway.

The property has been carefully examined by several well-qualified authorities, who express in most decided terms the high opinion they unanimously form of the great value of this mineral grant.

Capt. Thomas Mitchell, manager of the famous Parys Mountain Mine, and who has had great experience of mining properties, says:—"I expect a great mine will be opened out, which will be to any in the district, not even excepting the famous Talarth Mines, which are situated only a few miles eastward."

[N.B.—The Talarth Mines have, it is said, returned over a million and a half sterling in profits, and are now being extensively developed.]

"And considering the number of the lodes, their masterly size, highly promising appearance, and the rich quality of the ore obtained therefrom, the congenial nature of the rock in which they are embedded, the extraordinary working facilities the property possesses, the never-failing supply of water power available, and the other numerous conveniences appertaining to this property, I question if a more eligible property, and one likely to turn out more successfully with a small outlay of capital could be found in North Wales."

The following assay of the produce of the mine has been made by Messrs. Johnson, Matthey, and Co., assayers and melters to the Bank of England and Her Majesty's Mint.

Assay Office, Hatton Garden, London, E.C.
September 10, 1874.
Stone of ore from East Elwy River Lead Mine:—Produce of lead, 80.50 per cent.
(Signed) JOHNSON, MATTHEY, and Co.

It will be interesting here to note that 14 lead mines, with a total subscribed capital of a little more than £900,000, have returned in dividends £2,250,000 sterling, or a return of 350 per cent. upon the outlay. Of these, by far the most profitable are Welsh mines. The Llanbryn-mawr Mines, for instance, have returned nearly £230,000 on an outlay of £7500; Minera, nearly £580,000 on an outlay of £45,000; Goginan, has returned £290,000 on an outlay of £9600. Another Welsh mine, known as Van Mine has since its opening, six years ago, given nearly £200,000 in profits. With these facts before us, and considering the forward state of development of the East Elwy River Lead Mine, with ore discovered at several points, it is for dividends on a scale that will render this mine conspicuous in the records of the many already celebrated Welsh lead mines.

Prospectuses, applications for shares, and any further information may be obtained from the brokers, Messrs. THORNYCROFT and Co., 30, Brookley Buildings, South John-street, Liverpool.

THE MINING JOURNAL.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACTS, 1862 and 1867, and of the LAMBERT MINING COMPANY (LIMITED).—ALL CREDITORS or CLAIMANTS of the above-named company, who have not received notice from the Official Liquidator thereof that their claims have been already admitted, are hereby required to COME IN and PROVE their several DEBTS or CLAIMS at the Registrar's Office, Truro, on Thursday, the 9th day of March next, at Eleven o'clock in the forenoon; or, in default thereof, they will be EXCLUDED from the BENEFIT of any DISTRIBUTION made before such proof. And for the purpose of such proof they are to attend in person, or by their solicitors or competent agents, at the time and place above mentioned.

FREDERICK MARSHALL, Registrar.
Dated Registrar's Office, Truro, the 23rd day of February, 1876.

CARNARVON COLLIERY.

TO BE SOLD, BY PUBLIC AUCTION (by Order of the Mortgagees), by Mr. F. G. GOUGH, at the Stepney Arms Hotel, Llanelli, in the county of Carmarthen, in One Lot, on Thursday, the 30th of March, 1876, at Four o'clock in the afternoon (subject to such conditions of sale as will be then and there produced), all that LEASEHOLD PROPERTY known by the name of THE CARNARVON COLLIERY.

Situate in the parish of Llanelli, in the county of Carmarthen. The coal produced is that known as "Bituminous," and of excellent quality, and is much used at the numerous works in the neighbourhood.

There is a siding from the colliery into the Llanelli and Llandilo Railway, communicating directly thereby with the Port of Llanelli and the Great Western Railway, each of which is distant from the colliery about two miles only.

The above property is held under two agreements or terms for the terms of 60 years, from the 30th day of June, 1872, and the 29th day of September, 1872, respectively, and a lease from year to year at sleeping rents, amounting together to £155 per annum.

The royalty on the coal and culm under the said agreements is 9d. per ton, and 4d. per ton on fire-clay, and the royalty on coal and culm under the said lease is 10d. per ton, and the royalty on fire-clay under a part of the property is 9d. per ton. The lands comprised in the said agreements consist of about 125 acres, and all the minerals lying thereunder are included in the lettings. The lands comprised in the said lease consist of about 25 acres, and the coal and culm thereby demised consist of the Penryn or Little Vein.

Particulars and conditions of the sale can be had gratis on application to the Auctioneer, Murray-street, Llanelli; Mr. ROBERT JOHNSON, Solicitor, Hall-street, Llanelli; Messrs. LINKLATER and Co., Solicitors, 7, Walbrook, London, E.C.; or to Messrs. SPEECHLY and Co., Solicitors, 1, New Inn, Strand, London, W.C.

Llanelli, February, 1876. ROBERT JOHNSON, Hall-street, Llanelli.

NOTICE.

SALE, BY AUCTION, OF THE MINE OF AGORDO, IN ITALY.

NOTICE IS HEREBY GIVEN, that on the 10th of May, 1876, a SECOND SALE, BY AUCTION, will take place in Italy, at the Intendenza di Finanza, in the City of Belluno, for the Definitive Adjudication in favour of the HIGHER BIDDER of the COPPER MINE OF AGORDO, belonging to the State Domain, including the following property, in One Lot, only:—

| | | |
|--|--------------|------------|
| 1st.—The buildings and other properties for the use of the administration of the mine, the forges and smelting apparatus | Italian lire | 200,000-00 |
| 2nd.—The property independent of the works of the establishment | | 30,000-00 |
| 3rd.—The woods and timber appertaining to the establishment, in round figures | | 200,000-00 |
| 4th.—The value of the mine | | 100,000-00 |
| 5th.—The value of the movable | | 25,000-00 |
| Total upset price | Italian lire | 555,000-00 |

The important modifications made since January, 1875, in purifying the ore have produced many improvements, which, in the actual condition of the works, represent a yearly profit of 80,000 lire, besides which, these improvements do away with the necessity of using the dry method, and consequently no coals will be required for the furnace.

No offer to be made of less than 500 Italian lire over the fixed sum of 555,000 lire, at which the sale will be opened.

The sale will be effected by auction, and the adjudication will be made, even should there be but one bidder.

All information respecting the conditions of sale, the mode of payment, and other particulars, as from the Cahier des Charges, may be seen at the Italian Consulate General, 31, Old Jewry, E.C.

London, 25th February, 1876.

J. B. HEATH, Italian Consul General.

SHARES IN A CELEBRATED MINING PROPERTY IN CHILLI.

YIELDING LARGE PROFITS, FOR SALE.

TO BE SOLD, BY AUCTION, at the Mart Tokenhouse-yard, in the City of London, on Tuesday, the 23rd day of May, 1876, at Two o'clock precisely, by Messrs. DRIVER, in One or more Lots, THREE SHARES (in Chilli designated Barras) in the CARRIZALILLO MINING COMPANY. The company is divided into 24 shares only.

The CARRIZALILLO COMPANY own the celebrated DESCUBRIDORA MINE, and the three adjoining sets of SAN JUAN, CANCHAS, and SAN FRANCISCO, which are all worked under one administration, and are situate about thirty-three miles from the Port of Pan de Azucar, from whence there is a good road.

The DESCUBRIDORA MINE has been working since 1850, and has yielded large profits. There are two steam-engines at work, one of 20-horse power and one of 8-horse power, for drawing, and there is also a newly-erected powerful engine, with Blake's crusher attached; by the use of the latter the company is enabled to dress and return the large accumulation of low-produce ore, which will now give a considerable profit. The mine is in thorough working order, and well stocked with materials, tools, jiggers, crushers, &c.

The adjoining sets of SAN JUAN, CANCHAS, and SAN FRANCISCO were acquired for the purpose of securing the ground around the Descubridora Mine, and they have since been worked on a limited scale. There is also a shop, which supplies the workpeople, and also horses, carts, and mules.

Also the VEGA WASHING AND JIGGING ESTABLISHMENT, with yards, houses, shop, and stores, about nine miles from Descubridora (a tramroad is being laid down from the mine, which will greatly lessen the costs of carriage to the Vega). There are also dwelling-houses, bake-houses, yards, store-rooms, ore floors, and a mole at Pan de Azucar, with convenient launches for use in loading ships with the ore; and there is also belonging to the company a quinquichie establishment, a watering place, situate about eleven miles from Pan de Azucar, on the road to Descubridora, with dwelling house, shop, store, mule yard, water carts, mules, and harness; and in Channar Port a dwelling-house of eight rooms, and spacious balcony and store below, with good counting house.

The company also have Channar other houses and sites, and also a complete outfitting apparatus, with four boilers, &c.

Two-thirds of Descubridora, San Juan, Canchas, and San Francisco, with some other property of comparatively small value, were sold in 1872 for the aggregate sum of £90,000, and since then profits have been divided much more than sufficient to repay the purchase-money, and there is every prospect of Descubridora continuing to give large profits for a considerable time.

Printed conditions of sale will be shortly ready, and further particulars can be obtained in Chilli from ROBERT FEEBLES, Esq., Channar, Chilli; and in England from Messrs. DRIVER, the Auctioneers, Whitehall, London; or of

S. T. G. DOWNING, Solicitor, Redruth, Cornwall.

THE HENDON SPELTER WORKS.

TO CAPITALISTS, PROMOTERS OF PUBLIC COMPANIES, & OTHERS.

FOR SALE, in consequence of the Death of the late Senior Partner, John Candlish, M.P., the SPELTER WORKS, situate at Hendon, in the borough of Sunderland, in the county of Durham, carried on under the style of "THE HENDON SPELTER COMPANY."

The works are situated within one mile of the well-known docks of the Port of Sunderland, and adjoining the Hartlepool Branch of the North Eastern Railway, with which they are connected by high and low level sidings, and thereby placed in communication with all parts of the United Kingdom. Their position, within easy distance of both the ports of Newcastle and Sunderland, is very advantageous for the cheap importation of raw material, as also the forwarding of the manufactured article either by land or sea.

The ground on which the works are built can be either bought out or bought on a yearly perpetual ground rent, and any quantity under 20 acres can be included in the sale.

Being situated in the midst of the Durham Coal Field fuel of the best description can be obtained at a cost below almost any other part of the United Kingdom. There are 19 workmen's cottages, which can be bought with the works.

The works contain 24 zinc furnaces, capable of producing 70 tons of metal a week, as also calciners, pitfalls, machinery, blacksmiths' and joiners' shops, &c., of sufficient capacity for a much larger number. The works can, therefore, be doubled at a comparatively small cost.

The quality of the metal made at these works is well known, and it, therefore, commands a ready sale at the highest prices.

Attached to the high level sidings are large depots for coal, ore, &c.

The goodwill would, of course, go with the works, and they will be sold subject to all stock being taken at a fair market value.

The purchaser can also have the option of buying the CALCINING WORKS and VALUABLE MINES in SPAIN, thus allowing of the economical and regular supply of the raw material, and saving the mineowners' and merchants' profits. As the ore from the South of Spain generally comes as ballast for ships laden with esparto, it has been brought for this company at an average cost of 7s. per ton, sometimes as low as 4s. 6d.

Further particulars can be had on application to the company.

SULPHATE OF BARYTES FOR SALE.—

Fine powdered, beautifully white; also in the Rock or Crude State, free from Lime and Metallic Oxide.

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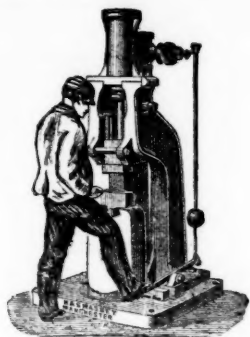
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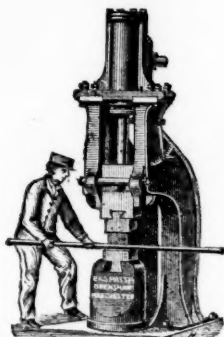
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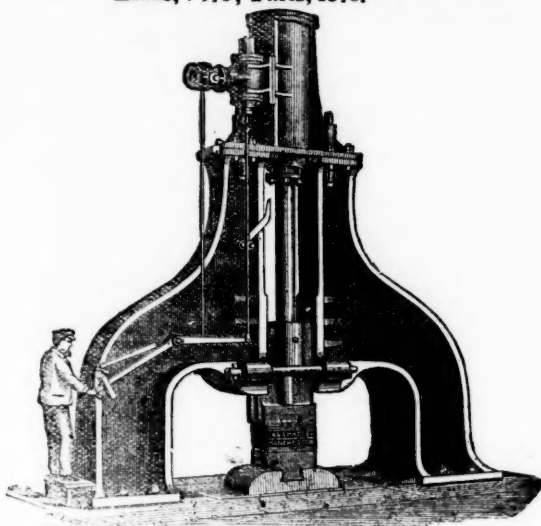
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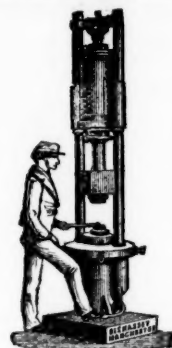


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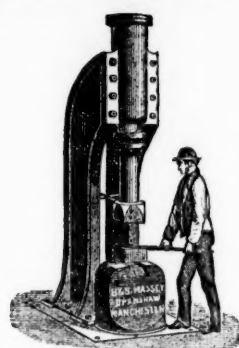


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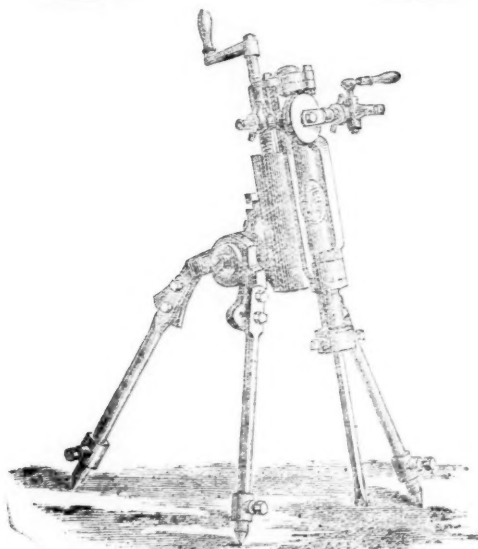
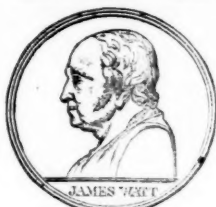
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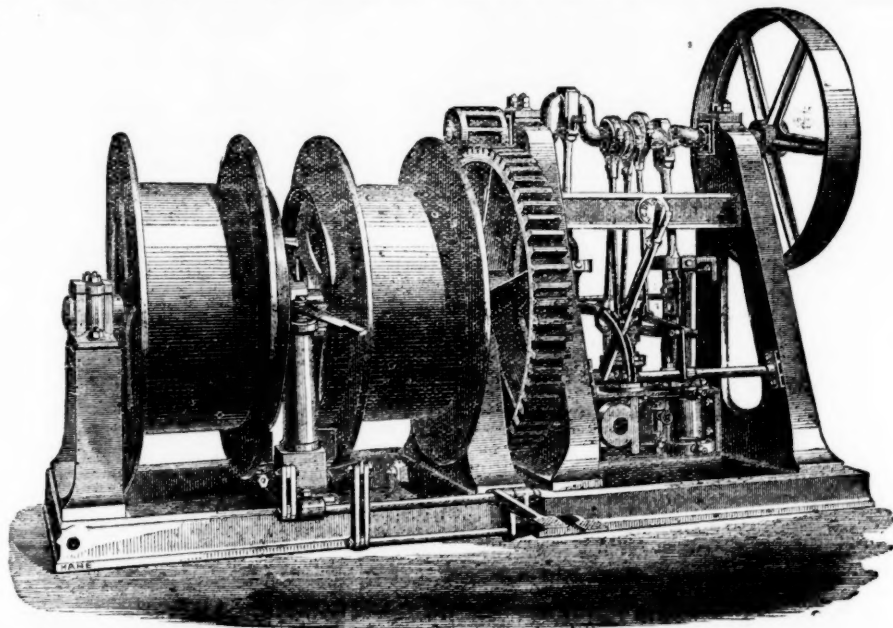
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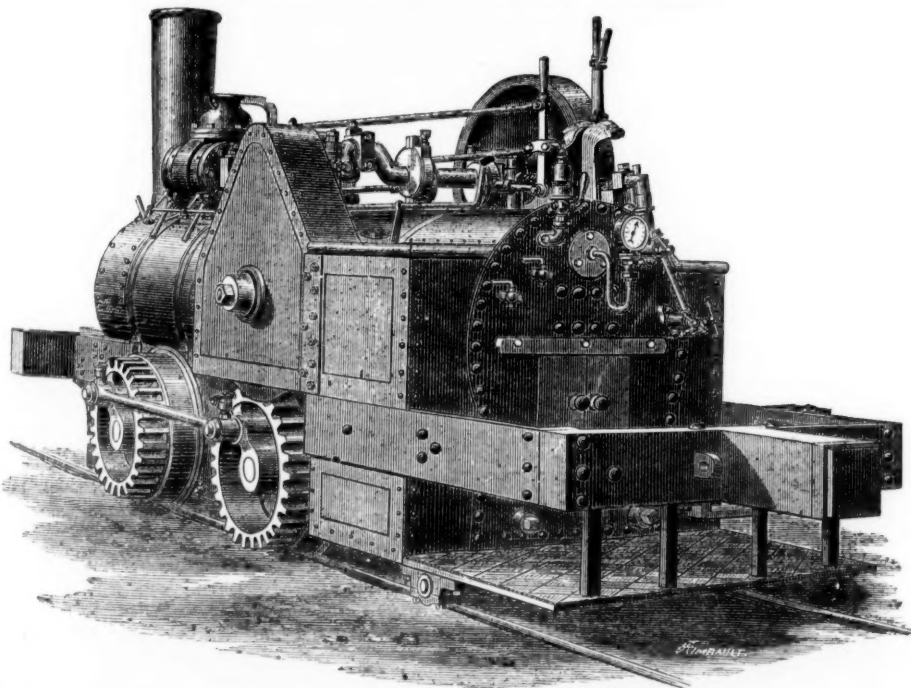
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| Shares. | Mines. | Paid. | Last Pr. | Clos. Pr. | Total divs. | Per share. | Last paid |
|---------|--|----------|----------|-----------|-------------|------------|------------|
| 1500 | Alderley Edge, c, Cheshire | 10 00 | — | — | 12 11 8 | 0 5 0 | Jan. 1876 |
| 11000 | Balmby, c, W. Yorks. (4000 to is.) | 1 00 | — | — | 0 2 0 | 0 2 0 | Nov. 1875 |
| 30000 | Bampfyde, c, Devon | 116 50 | 1 1/2 | 1 1/2 | 0 2 0 | 0 2 0 | June 1875 |
| 4000 | Botalack, c, St. Just | 1 16 0 | — | — | 3 16 0 | 0 2 0 | Nov. 1875 |
| 2500 | Brookwood, c, St. Just | 5 18 0 | — | — | 4 16 8 | 0 12 6 | Oct. 1875 |
| 3500 | Carn Brea, c, Cornwall | 2 10 0 | — | — | 1 7 6 | 0 2 0 | Aug. 1875 |
| 1000 | Carn Brea, c, Cornwall | 35 00 | — | — | 308 0 0 | 1 0 0 | Feb. 1876 |
| 600 | Cath. & Jane, c, Cornwall | 5 00 | — | — | 0 7 6 | 0 7 6 | June 1875 |
| 2500 | Cock's Kitchen, c, Cornwall | 21 19 9 | — | — | 11 17 0 | 0 7 6 | June 1875 |
| 10240 | Devon Gt. Consols, c, Tavistock | 10 14 10 | — | — | 118 10 0 | 0 12 0 | May 1875 |
| 4250 | Dolcoath, c, Cornwall | 6 00 | — | — | 108 11 5 | 0 10 0 | Feb. 1876 |
| 6000 | Drake Wall, c, Cornwall | 1 00 | — | — | 0 2 0 | 0 2 0 | June 1875 |
| 10000 | East Basset, c, Cornwall | 2 14 6 | — | — | 0 2 11 0 | 0 5 6 | Feb. 1876 |
| 6144 | East Caradon, c, St. Cleer | 32 00 | — | — | 14 19 0 | 0 20 0 | Oct. 1875 |
| 300 | East Darnley, c, Cornwall | 0 9 9 | — | — | 232 10 0 | 1 0 0 | Jan. 1876 |
| 6400 | East Pool, c, Cornwall | 15 00 | — | — | 14 7 3 | 0 4 6 | Jan. 1876 |
| 1906 | East Wheal Lovell, c, Cornwall | 5 19 0 | — | — | 20 7 6 | 0 7 6 | Oct. 1875 |
| 2800 | Foxdale, c, Cornwall | 25 00 | — | — | 82 5 0 | 0 10 0 | Feb. 1876 |
| 40000 | Glasgow Carr, c, [30,000 to p. 10,000] | 150 00 | — | — | 0 11 0 | 0 3 0 | Jan. 1876 |
| 15000 | Great Laxey, c, Cornwall | 2 00 | — | — | 19 3 0 | 0 10 0 | Jan. 1876 |
| 28000 | Great West, c, Cornwall | 41 2 6 | — | — | 0 2 0 | 0 2 0 | Jan. 1876 |
| 8000 | Great Wheal Vor, c, Cornwall | 4 16 0 | — | — | 15 19 6 | 0 26 0 | Aug. 1875 |
| 6400 | Green Hurth, c, Cornwall | 0 6 0 | — | — | 1 12 0 | 0 4 0 | Oct. 1875 |
| 20000 | Grognon, c, Cornwall | 2 00 | — | — | 0 5 6 | 0 2 6 | Jan. 1876 |
| 9830 | Gunnislake (Clitters), c, Cornwall | 5 5 0 | — | — | 0 8 9 | 0 1 6 | Oct. 1875 |
| 1024 | Herodfoot, c, Cornwall | 8 10 0 | — | — | 62 8 0 | 0 15 0 | Oct. 1875 |
| 18000 | Killalea Down, c, Cornwall | 2 8 0 | — | — | 4 4 0 | 0 10 0 | Nov. 1875 |
| 25000 | Killalea, c, Cornwall | 15 10 0 | — | — | 571 10 0 | 1 0 0 | Mar. 1876 |
| 400 | Lisburne, c, Cornwall | 0 10 0 | — | — | 0 17 6 | 0 1 0 | Jan. 1876 |
| 5120 | Llewell, c, Cornwall | 4 5 0 | — | — | 7 15 0 | 0 3 0 | Jan. 1876 |
| 9000 | Marke Valley, c, Cornwall | 3 00 | — | — | 0 7 2 | 0 3 0 | Jan. 1876 |
| 11000 | Melindur, c, Cornwall | 3 00 | — | — | 64 10 2 | 0 5 0 | Feb. 1876 |
| 9000 | Minera Mining Co., c, Wrexham | 5 00 | — | — | 23 11 0 | 0 3 6 | Jan. 1876 |
| 20000 | Mining Co. of Ireland, c, Ireland | 7 00 | — | — | 0 10 0 | 0 10 0 | Dec. 1875 |
| 512 | North Busy, c, Chacewater | 3 9 6 | — | — | 1 2 6 | 0 2 6 | Nov. 1875 |
| 12000 | North Hendre, c, Wales | 2 10 0 | — | — | 4 13 0 | 0 12 0 | Sept. 1875 |
| 2000 | North Levant, c, St. Just | 12 20 | — | — | 0 9 0 | 0 4 0 | Feb. 1876 |
| 27558 | Old Treburget, c, Cornwall | 0 10 0 | — | — | 0 5 0 | 0 5 0 | July 1875 |
| 9250 | Old Treburget, c, Cornwall | 9 17 0 | — | — | 3 13 6 | 0 20 0 | July 1875 |
| 2800 | Pednarn, c, Cornwall | 3 00 | — | — | 0 2 8 | 0 8 0 | Nov. 1875 |
| 5000 | Penhalls, c, Cornwall | 2 00 | — | — | 39 19 0 | 0 4 0 | Nov. 1875 |
| 4500 | Penarth, c, Cornwall | 13 14 | — | — | 0 14 0 | 0 1 3 | Jan. 1876 |
| 19000 | Prince Patrick, c, Cornwall | 1 00 | — | — | 104 12 6 | 0 10 0 | Sept. 1875 |
| 1120 | Providence, c, Cornwall | 16 16 7 | — | — | 5 16 0 | 0 8 6 | Feb. 1876 |
| 12000 | Roman G. Avels, c, Cornwall | 7 10 0 | — | — | 728 0 0 | 0 2 0 | Feb. 1876 |
| 612 | South Caradon, c, Cornwall | 1 5 0 | — | — | 1 15 0 | 0 1 5 | Feb. 1876 |
| 5128 | South Caradon, c, Cornwall | 2 17 0 | — | — | 1 15 0 | 0 1 5 | Feb. 1876 |
| 5000 | South Caradon, c, Cornwall | 6 5 6 | — | — | 1 15 0 | 0 1 5 | Feb. 1876 |
| 5000 | South Caradon, c, Cornwall | 3 6 8 | — | — | 1 1 6 | 0 1 6 | Nov. 1875 |
| 1000 | So. Pr. Patrick, c, Cornwall | 1 00 | — | — | 0 7 0 | 0 1 0 | Oct. 1875 |
| 1000 | Tanquerist, c, Cornwall | 6 00 | — | — | 4 2 0 | 0 5 0 | Feb. 1876 |
| 4000 | Tincoff, c, Cornwall | 9 00 | — | — | 48 18 0 | 0 5 0 | Nov. 1875 |
| 4000 | Trumpton Consols, c, Cornwall | 8 10 0 | — | — | 9 11 0 | 0 10 0 | Nov. 1875 |
| 1000 | Tylwyd, c, Cornwall | 1 00 | — | — | 0 1 0 | 0 1 0 | Nov. 1875 |
| 1400 | Van, c, Cornwall | 4 5 0 | — | — | 63 10 6 | 0 15 0 | Dec. 1875 |
| 1500 | W. Chertons, c, Cornwall | 12 10 0 | — | — | 63 10 6 | 0 15 0 | Dec. 1875 |
| 1700 | Wet Po. Dice, c, Cornwall | 10 00 | — | — | 1 14 0 | 0 12 6 | Dec. 1875 |
| 612 | West Tolgus, c, Cornwall | 65 10 0 | — | — | 12 5 0 | 0 5 0 | Feb. 1876 |
| 945 | West Wheal Frances, c, Cornwall | 27 3 9 | — | — | 3 12 6 | 0 5 0 | Oct. 1875 |
| 512 | Wheal Basset, c, Cornwall | 9 2 6 | — | — | 638 10 0 | 1 10 0 | Aug. 1875 |
| 2048 | Wheal Jane, c, Cornwall | 2 13 10 | — | — | 8 5 0 | 0 5 0 | July 1875 |
| 4250 | Wheal Kitty, c, Cornwall | 5 4 6 | — | — | 11 19 6 | 0 2 6 | Dec. 1875 |
| 80 | Wheal Owles, c, Cornwall | 88 5 0 | — | — | 522 10 0 | 4 0 0 | Aug. 1875 |
| 6000 | Wheal Prussia, c, Cornwall | 2 00 | — | — | 3 3 0 | 0 2 0 | Dec. 1875 |
| 5000 | Wheal Prussia, c, Cornwall | 2 00 | — | — | 82 9 0 | 0 2 8 | Mar. 1876 |
| 10000 | Wheal Prussia, c, Cornwall | 3 00 | — | — | 0 6 0 | 0 3 0 | Aug. 1875 |

FOREIGN DIVIDEND MINES.

| Shares. | Mines. | Paid. | Last Pr. | Clos. Pr. | Total divs. | Per share. | Last paid |
|---------|--|---------|----------|-----------|-------------|------------|------------|
| 35500 | Alamillos, c, Spain | 2 00 | — | — | 1 9 9 | 0 2 0 | Sept. 1875 |
| 30000 | Almaden, c, Spain | 1 00 | — | — | 0 5 3 | 0 10 0 | Mar. 1876 |
| 30000 | Australian, c, South Australia | 7 8 0 | — | — | 0 15 6 | 0 2 0 | July 1875 |
| 10000 | Battle Mountain, c, California | 5 00 | — | — | 10 0 0 | 0 10 0 | Nov. 1875 |
| 18000 | Birdseye Creek, c, California | 4 00 | — | — | 0 4 0 | 0 2 6 | June 1875 |
| 8000 | Bismarck, c, Germany | 10 00 | — | — | 0 17 4 | 0 2 6 | June 1875 |
| 12800 | Burra, c, South Australia | 5 00 | — | — | 56 0 0 | 0 10 0 | Oct. 1875 |
| 2000 | Cape Copper Mining, c, S. Africa | 7 00 | — | — | 22 15 0 | 0 10 0 | Dec. 1875 |
| 4000 | Cedar Creek, c, California | 5 00 | — | — | 0 8 0 | 0 2 6 | June 1875 |
| 30000 | Central American Association, c, U.S. | 0 16 6 | — | — | 0 8 0 | 0 10 0 | July 1875 |
| 15000 | Chicago, c, U.S. | 10 00 | — | — | 1 16 0 | 0 4 0 | Feb. 1876 |
| 21000 | Colorado Terrible, c, Colorado | 8 00 | — | — | 0 13 6 | 0 4 0 | Jan. 1876 |
| 10000 | Copacopa, c, Chile | 15 10 0 | — | — | 7 8 5 | 0 2 6 | Jan. 1876 |
| 10000 | Don Pedro, c, Chile | 0 16 0 | — | — | 0 9 0 | 0 2 0 | Mar. 1876 |
| 25000 | Eberhardt and Aurora, c, Nevada | 10 00 | — | — | 1 14 0 | 0 9 0 | Mar. 1876 |
| 60000 | Emma, c, U.S. | 20 00 | — | — | 3 12 0 | 0 2 0 | July 1875 |
| 10000 | Emmala and Australian, c, S. Aust. | 2 10 0 | — | — | 2 18 0 | 0 2 0 | Mar. 1876 |
| 15000 | Ferguson, c, California | 2 00 | — | — | 0 3 0 | 0 3 0 | April 1875 |
| 30000 | Flagstaff, c, U.S. | 10 00 | — | — | 4 2 0 | 0 5 0 | July 1875 |
| 25000 | Fortuna, c, Spain | 2 00 | — | — | 5 10 0 | 0 6 0 | Sept. 1875 |
| 8000 | Gold Run, c, U.S. | 1 00 | — | — | 0 2 4 | 0 4 0 | Oct. 1875 |
| 8000 | Kapunda, c, U.S. | 1 8 0 | — | — | 0 2 4 | 0 6 0 | June 1875 |
| 20000 | Last Chance, c, U.S. | 1 00 | — | — | 15 4 0 | 0 2 0 | July 1875 |
| 15000 | Llaneros, c, Spain | 3 00 | — | — | 0 4 2 | 0 5 0 | Sept. 1875 |
| 65000 | London and California, c, U.S. | 2 00 | — | — | 0 1 0 | 0 1 0 | Sept. 1875 |
| 7837 | Lusitania, Portugal, c, (45 shares) | 3 10 0 | — | — | 1 11 6 | 0 1 0 | Mar. 1876 |
| 5000 | Mammoth Copper, c, U.S. | 10 00 | — | — | 0 6 0 | 0 5 0 | Dec. 1875 |
| 5000 | Mountain Chief, c, U.S. | 10 00 | — | — | 0 4 0 | 0 4 0 | Jan. 1876 |
| 15000 | Pratt Mining, c, U.S. | 30 00 | — | — | 0 8 0 | 0 3 0 | July 1875 |
| 10000 | Pratt Mining, c, U.S. | 20 00 | — | — | 20 14 2 | 1 3 2 | Nov. 1875 |
| 10000 | Port Phillip, c, U.S. | 1 00 | — | — | 1 8 0 | 0 10 0 | Jan. 1876 |
| 10000 | Richmond Consols, c, Nevada | 6 00 | — | — | 12 5 0 | 0 7 6 | May 1875 |
| 120000 | Scottish Australian Mining Co., c, U.S. | 1 00 | — | — | 12 5 0 | 0 7 6 | May 1875 |
| 80000 | Scottish Australian Mining Co., c, U.S. | 0 50 | — | — | 12 5 0 | 0 7 6 | May 1875 |
| 112500 | Sierra Butte, c, California | 2 00 | — | — | 1 12 0 | 0 2 0 | Nov. 1875 |
| 6000 | South Aurora, c, Nevada | 5 00 | — | — | 0 14 2 | 0 2 0 | Nov. 1875 |
| 12250 | S. Australian (Burra Burra), c, S. Aust. | 5 00 | — | — | 70 0 0 | 0 5 0 | Jan. 1876 |
| 250000 | St. John del Rey, c, (45 stock and multiples dealt in) | 375 285 | — | — | 25 3 0 | 0 4 0 | Dec. 1875 |
| 15000 | Sweetland Creek, c, California | 4 00 | — | — | 3 4 0 | 0 2 0 | Dec. 1875 |
| 30000 | Tollima, c, (6000 sh. are £5 p. d.) | 4 10 0 | — | — | 0 11 6 | 0 6 8 | May 1875 |
| 15000 | Western Andes, c, New Granada | 5 00 | — | — | 2 13 0 | 0 8 0 | Sept. 1875 |

NON-DIVIDEND FOREIGN MINES.

| Shares. | Mines. | Paid. | Last Pr. | Clos. Pr. | Last Paid. |
|---------|---|---------|----------|-----------|------------|
| 20000 | Anglo-Australasian, c, Victoria* | 2 10 0 | — | — | Sept. 1875 |
| 5000 | Anguilla Phosphate, West Indies (4000 issued) | 10 0 0 | — | — | Fully pd. |
| 12000 | Argentine, c, Argentine Republic | 5 0 0 | 7½ | 7 7½ | Fully pd. |
| 10000 | Australian Central, c, (also 6000 deferred shares) | 1 0 0 | — | — | Fully pd. |
| 3000 | Bellavista, c, Peru | 5 0 0 | — | — | Fully pd. |
| 3000 | Blue Tent, <i>hyd.</i> , c, California | 5 0 0 | — | — | Fully pd. |
| 5000 | Braganza, c, Brazil† | 0 15 0 | — | — | Fully pd. |
| 12000 | Camp Floyd, c, Utah* | 10 0 0 | — | — | Oct. 1875 |
| 35000 | Cesena Sulphur Company, Romagna, Italy* | 10 0 0 | — | — | Fully pd. |
| 50152 | Chontales, c, c, Nicaragua† (and 12,542 of £1 15s.) | 2 0 0 | ¾ | ¾ ¾ | Fully pd. |
| 6000 | Clifton, c, Colorado* | 5 0 0 | — | — | Fully pd. |
| 15 60 | Condor, c, Chile, <i>s. d.</i> | 5 0 0 | 7 | 6½ 7 | Feb. 1875 |
| 10000 | Crescent, c, Plumas Co., California* | 8 0 0 | — | — | Fully pd. |
| 35000 | Excelsior Hydraulic Gold Washing Co., California* | 6 0 0 | — | — | Fully pd. |
| 10 000 | Exchequer, c, c, California* | 1 0 0 | — | — | Dec. 1871 |
| 55000 | Frontino and Bolivia, c, New Granada* | 2 0 0 | 1½ | 1½ 1½ | Fully pd. |
| 40000 | Holcombe Valley, c, c, California | 1 0 0 | 2½ | 2 2½ | Fully pd. |
| 6000 | Hornachos, <i>c. s. l.</i> , (£10 shares) Spain | 10 0 0 | — | — | Jan. 1875 |
| 30000 | Imperial Brazilian Collieries, Brazil* | 5 0 0 | — | — | Fully pd. |
| 10000 | I. L. L., c, c, California* | 1 0 0 | — | — | Fully pd. |
| 50000 | Javali, c, c, Nicaragua | 2 0 0 | 1 | ¾ 1 | Fully pd. |
| 10000 | Laneros, <i>c. l. z.</i> , Viscaya, Spain (25 shares) | 1 12 6 | — | — | Fully pd. |
| 75000 | Malabar, c, Colombia* (45000 issued) | 1 12 6 | — | — | Sept. 1874 |
| 40000 | Malpaso, c, Colombia* (10000 pref. shares, fully paid) | 1 0 0 | — | — | Fully pd. |
| 12000 | Menzenberg, c, Honnet, Germany* | 5 0 0 | — | — | Fully pd. |
| 6000 | Monte Loretto, c, c, Italy* | 5 0 0 | — | — | Fully pd. |
| 15000 | New Pacific, c, c, Nevada* | 0 10 0 | ¾ | ¾ ¾ | Fully pd. |
| 60000 | New Quebrada, c, Venezuela* | 5 0 0 | 4½ | 3½ 4 | Fully pd. |
| 20000 | New Zealand Kapanga, c, c, Coromandel* | 1 0 0 | — | — | Fully pd. |
| 3000 | Oregon, <i>c. g.</i> , Oregon, U.S. (preference shares) | 5 0 0 | 1 | ¾ 1 | Fully pd. |
| 50000 | Panulicillo, c, Chile† (25000 debentures) | 4 0 0 | — | — | Sept. 1875 |
| 5000 | Pasternana United, c, Italy* | 4 0 0 | 1½ | 1½ 2½ | Fully pd. |
| 5000 | Rica, c, Colombia* (40000 issued) | 3 0 0 | ¾ | ¾ ¾ | Fully pd. |
| 20 000 | Rio Tinto, <i>c. g.</i> , U.S., U.S. | 10 0 0 | 6 | 5 6 | Fully pd. |
| 10 000 | Rosa Grande, c, Brazil† (21 shares) | 0 19 0 | — | — | Fully pd. |
| 3 000 | Russia, c, Orenburg and Uta* | 10 0 0 | 3½ | 2½ 3½ | Fully pd. |
| 5000 | Ran Pedro, c, Chile | 2 0 0 | 3½ | 3 3½ | Fully pd. |
| 40000 | Santa Barbara, <i>c. g.</i> , Brazil | 0 9 6 | 4½ | 3½ 3½ | Fully pd. |
| 10000 | Silver Plume, c, Colorado* | 1 0 0 | 1½ | 1½ 1½ | Mar. 1872 |
| 37500 | Snowdrift, c, Colorado* | 2 0 0 | — | — | Fully pd. |
| 30000 | Tecoma, c, Utah* | 10 0 0 | — | — | Fully pd. |
| 30000 | Thornhill Reef, c, Australia* | 1 0 0 | 1½ | 1½ 1½ | Fully pd. |
| 31374 | Union Free, c, c, Mexico† | 28 12 8 | ¾ | ¾ ¾ | Fully pd. |
| 1 000 | Uta, <i>c. g.</i> , Uta | 28 12 8 | 3½ | 3 3½ | Mar. 1875 |
| 20000 | Yorkshire (London) | 5 0 0 | — | — | Fully pd. |
| 75000 | Yerke Peninsula, c, South Australia (25,000 sh. 16s. pd.) | 1 0 0 | — | — | Fully pd. |
| 40000 | Yerke Peninsula, c, South Australia (preference shares) | 1 0 0 | ½ | ¾ ¾ | Fully pd. |

* Have made call on the shareholders.